Compact disc recorder CDR760

/00/06S/11S/13S/17

Service
Service
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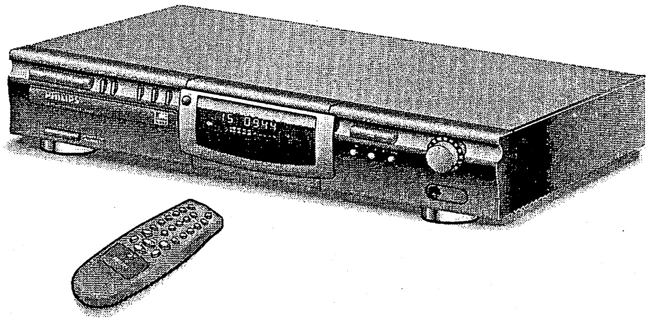

Service Manual

COMPACT
disc
DIGITAL AUDIO
Recordable
ReWritable

SERVICING

For servicing CDR760 the set can be divided into two parts.

1. The Display board, the Connector interface board and the Level / Headphone board have to be repaired on component level. The power supply is available as a spare part but can also be repaired on component level.
2. The loader (containing CD mechanism and CDM-board) and the Main board will be exchanged completely in case of failure. Both are available as sparepart. For easy diagnostics, the set has been equipped with a selfdiagnose program. Defective loaders and main boards have to be returned for central repair.

Also available: Circuit description:"The basics of Compact Disc Recordable / Rewritable.
Service codenumber 4822 725 25242.

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COMPACT
disc
DIGITAL AUDIO
Recordable

COMPACT
disc
DIGITAL AUDIO
ReWritable

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PHILIPS

TECHNICAL SPECIFICATIONS

General

1. Mains voltage	
/00/06/11/13	84-250V
/17	117V
2. Mains frequency	50-60Hz
3. Power consumption	15W

Input/Output

1. **Line output.**

Output level:	2Vrms at 0dB.
Output resistance:	200Ω.

2. **Line input.**

input sensitivity:	500mVrms.
Input impedance:	50kΩ.
Maximum input voltage:	5Vrms.

3. **Digital output.**

Format:	AES/EBU format according IEC958 (consumer format).
Sampling frequency:	44.1kHz.
output resistance:	75Ω.

4. **Digital input.**

Format:	AES/EBU format according IEC958 (consumer format).
Sampling frequency:	44.1kHz.
Input resistance:	75Ω.

5. **Optical input.**

Format:	AES/EBU format according IEC958 (consumer format).
Sampling frequency:	44.1kHz.

Audio performance

Cinch analog output (playback path).

Output voltage:	2Vrms ± 2dB. (0dB digital).
Frequency range F.R.:	20Hz < F.R. < 20kHz.
Amplitude linearity:	± 0.3dB. typical.: ± 0.1dB.
Channel unbalance:	<0.3dB at 1kHz. typical: ±0.2dB.
Output resistance:	200Ω.
Phase non-linearity:	<0.2° at 1kHz.
Outband attenuation:	50dB above 30kHz.
Channel separation:	>90dB at 1kHz. typical: 110dB. >85dB from 20Hz. until 20kHz. typical: >93dB.
S/N-ratio A-weighted:	>98dB. typical: 105dB.
S/N-ratio unweighted:	>95dB. typical: 100dB.
Dynamic range:	>92dB. at 1kHz. typical: 96dB. >90dB from 20Hz. until 20kHz. typical: 96dB.
THD+N:	>82dB from 20Hz. until 20kHz. typical: 85dB.

Cinch analog input/output (monitor path).

Measured with Audio precision system one.
Input voltage is 500mVrms.

Output voltage:	2Vrms ± 2dB. (0dB digital).
Frequency range F.R.:	20Hz < F.R. < 20kHz.
Amplitude linearity:	± 0.3dB. typical.: ± 0.1dB.
Channel unbalance:	<0.3dB at 1kHz. typical: ±0.2dB.
Output resistance:	200Ω.
Phase non-linearity:	<0.2° at 1kHz.
Outband attenuation:	50dB above 30kHz.
Channel separation:	>90dB at 1kHz. typical: 98dB. >85dB from 20Hz. until 20kHz. typical: >92dB.
S/N-ratio unweighted:	>84dB. typical: 88dB.
Dynamic range:	>85dB. at 1kHz. typical: 90dB.
THD+N:	>80dB from 20Hz. until 20kHz. typical: 85dB.
Intermodulation THD:	>80dB.

Headphone output (all functions).

Output voltage:	4Vrms(0dB) / 8 - 2000Ω.
S/N:	>80dB.
THD+N:	>78dB.
Channel separation:	>60dB from 20Hz. until 20kHz.

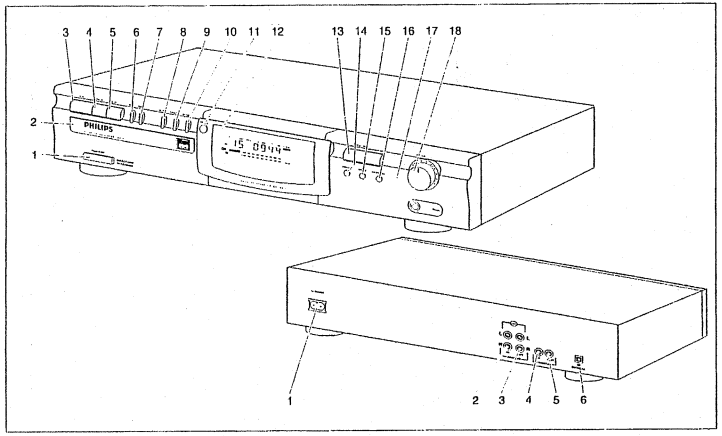
Dimensions and weight

1. Apparatus tray closed:	WxDxH 435 x 305 x 75
2. Weight without packaging:	3,5 kg
3. Weight in packaging:	4,5 kg

Laser Device Unit

1. Material:	GaAlAs
2. Wave length:	775→795 nm(at 25°C)
3. Laser output	
read:	0,7→0,9 mW
write:	13→18 mW
4. Class:	3B

CONTROLS AND CONNECTIONS



Controls on the front

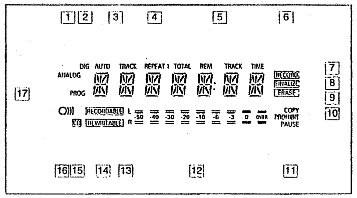
1 **ON/OFF** . . . . turns the CD recorder ON and OFF
2 Disc tray
3 **PLAY ▶**. . . . . starts play or record
4 **PAUSE II** . . . . interrupts play
5 **STOP ■** . . . . stops
6 ⏮ . . . . previous track/searches back
7 ⏭ . . . . next track/searches forward/new track
8 **RECORD**. . . . . records
9 **FINALIZE**. . . . . finalizes recording
10 **ERASE** . . . . erases recording
11 **CD-SYNC** . . . . .synchronized recording (automatic start when recording)
12 DISPLAY (information screen)
13 **OPEN/CLOSE** . . . . opens/closes disc tray
14 **DISPLAY** . . . . selects display information
15 **SOURCE** . . . . .selects digital or analog input
16 **AUTO/MANUAL** . . selects track increase method
17 **PHONES** . . . . plug for headphones
18 **REC LEVEL** . . . . . . adjusts the recording level (analog)

Connections at the back

1 Connection to mains
2 **ANALOG IN** . . . . . connects to the line output of an amplifier. (left and right)
3 **ANALOG OUT**. . . . connects to the line input of an amplifier. (left and right)
4 **DIGITAL IN** . . . . . . connects to the digital coaxial output of a CD player
5 **DIGITAL OUT** . . . . connects to the digital coaxial input of e.g. amplifier or recording device
6 **OPTICAL IN** . . . . . connects to the digital optical output of a CD player

DISPLAY

DISPLAY explanation



1 **ANALOG** . . . . analog input is selected
2 **DIG**. . . . . lights when digital input is selected and flashes when digital input is incorrect.
3 **AUTO TRACK**. . . . . automatically increasing track numbers
4 **REPEAT (1)**. . . . . . . repeat function activated during play
5 Track number and time.
6 **CD-SYNC**. . . . . synchronized recording is active.
7 **RECORD** . . . . lights during recording and flashes in record standby
8 **FINALIZE** . . . . lights during finalizing and flashes in finalize standby
9 **ERASE** . . . . lights during erase recording and flashes in erase standby
10 **COPY PROHIBIT** . . Lights when trying to record digital protected audio.
11 **PAUSE** . . . . pause function is active
12 Record/play level bar (analog)
13 **RECORDABLE** . . . . Unfinalized CD-R disc inserted
14 **REWRITABLE**. . . . . CD-RW disc inserted
15 **CD** . . . . .CD inserted (a pre-recorded CD or . . . . .finalized CD-R or CD-RW disc)
16 O))) . . . . remote control active
17 **PROG** . . . . programmed play

DISPLAY messages

Messages, as listed and explained here, may appear on the display for your guidance.

READING ......reading disc information
OPC ....during OPC procedure
OPEN ....during tray opening
CLOSE ....during tray closing
NO DISC ......no disc inserted, or disc unreadable
UPDATE ....updating disc contents
ERROR ....write error during recording
RECOVER ......during recovery procedure
WAIT ....recording stop (4 seconds) in progress
SYNC ....during synchronized recording standby
TRACK ....during erase-track standby
DISC ....during erase-disc standby
SERVICE ......selftest failed
OPCFAIL ......laser power calibration failed. Further recording not possible
FULL ....program full
CD FULL ......no more recording possible
EMPTY ....no recordings on disc, finalizing not possible
NO AUDIO ....(flashing) no audio disc loaded or failure to read data
FINAL ....laser power calibration performed 96 times, finalize disc
COAXIAL ......digital coaxial input selected
OPTICAL ......digital optical input selected
SHUFFLE ......during shuffle
RC-DISC ......recovered disc. Finalizing not possible
TOC ....flashes during unfinalize disc standby, lights during unfinalize disc
INPUT ....during input selection (CD-SYNC)
ANALOG..........analog input selected

Connections general

For recording the CD recorder has the following inputs:
- Digital optical input
- Digital coaxial input
- Analog input

For play back the CD recorder has the following outputs:
- Digital coaxial output
- Analog output

The connections you make will depend upon the possibilities your audio equipment offers. Please refer to the user manuals for your other audio equipment first.

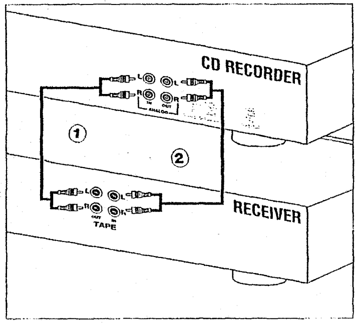
Recordings made from a digital source (CD player) via the digital optical or digital coaxial connection will give the best performance in audio and usability (e.g. auto-track).
(The digital optical connection is less sensitive to external disturbances).
If your equipment does not offer digital connections, the high quality Analog-Digital-Convertor of your CD recorder will ensure very good audio performance when recordings are made from the analog input.

Playback via the digital coaxial output of the CD recorder gives the best audio performance.
If your equipment does not offer digital connections the high quality Digital-Analog-Convertor of the CD recorder ensures a very good sound quality via the analog output.

We advise you always to establish both digital and analog connections. In this way you can always make analog recordings when digital recording is not possible.

Below we describe the most common ways of connecting the CD recorder. If you still have difficulties with the connections you always can contact Philips Consumer Service desk in your country.

Analog connections



Use the audio cables supplied. Connect the red plugs to the R sockets, and the white plugs to the L sockets.

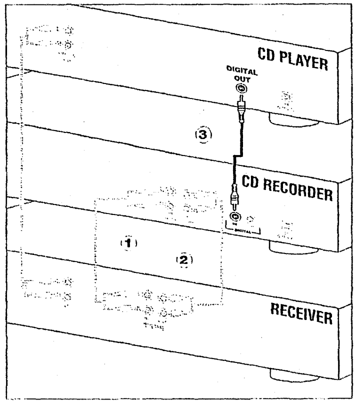
1 For recording, connect cable ① between the ANALOG IN-sockets on the CD recorder and the LINE- or TAPE OUT-sockets of an amplifier.

Note: For recording directly from a CD player the analog input of the CD recorder should be connected to the analog output of the CD player.

2 For playback, connect cable ② between the ANALOG OUT-sockets on the CD recorder and the input sockets of an amplifier e.g. TAPE IN, CD-R or AUX.

Note: Never use the PHONO input.

Digital coaxial connections

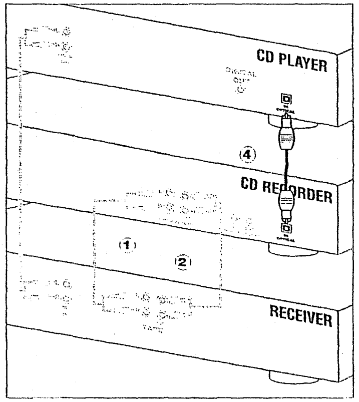


Use the supplied cable with the black plugs.

1 For recording, connect the cable ③ between the DIGITAL IN-socket on the CD recorder and the DIGITAL OUT-socket of a CD player.

Note: Your CD recorder is equipped with a digital coaxial output. This output can be used for digital playback.

Digital optical connections



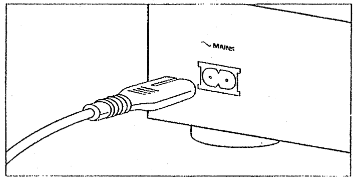
1 Remove the dust caps from the digital optical connections. (We recommend you to save the caps).

2 For recording, connect a fibre-optic cable ④ between the digital optical input of the CD recorder and the digital-optical output of a CD player.

Note: For playback the digital coaxial output or analog output should be connected to an amplifier.

INSTALLATION

Power supply



1 Plug the power cord supplied into the MAINS connector on the CD recorder, then into a mains socket.

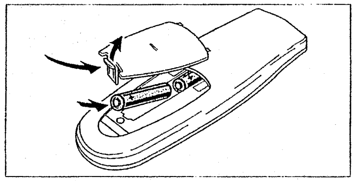
2 Press ON/OFF to turn the CD recorder on.

Note:
- *The CD recorder will automatically adjust to the local mains voltage.*
- *When the CD recorder is in the "OFF" position, it is still consuming some power. If you wish to disconnect your CD recorder completely from the mains, withdraw the plug from the AC Outlet.*

Setup recommendations

- Place the CD recorder on a solid, vibration free surface.
- Do not place the CD recorder near a source of heat or in direct sunlight.
- Do not use the CD recorder under extremely damp conditions.
- If the CD recorder is placed in a cabinet, make sure that a 2,5 cm space remains free on all sides of the recorder for proper ventilation.

Inserting batteries in the remote control



1 Open the battery compartment cover.

2 Insert 2 batteries (AAA, R03 or UM-4; as supplied) as shown.

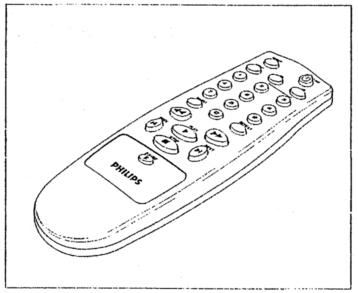
3 Replace the cover.

Note: *We recommend using 2 batteries of the same type and condition.*

Batteries contain chemical substances, so they should be disposed of properly.

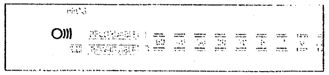
REMOTE CONTROL & INSERTING DISCS

Remote control commands



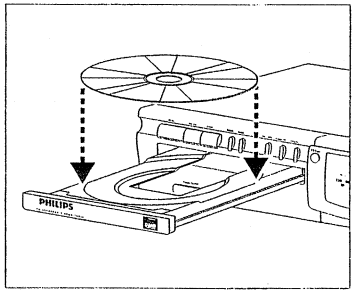
PROGRAM	programs track numbers
DISPLAY	selects display information
Number keys 0 - 9	Selets a track by number
SHUFFLE	plays CD(RW) or program in random order
◄◄	Searches backward
PREVIOUS I◄	selects the beginning of a previous track
STOP ■	stops CD(RW) and clears a program
PAUSE II	interrupts CD(RW) play
NEXT ►I	selects the beginning of subsequent track
PLAY ►	starts CD(RW) play
►►	Searches forward
REPEAT	repeat play
CD	CDR 765 only
CD-R	CDR 765 only
OPEN/CLOSE	Opens or closes the disc tray

While you press a button on the remote control, the indicator on the display lights up.



Note: *Unless otherwise stated, all controls are on the front of the CD recorder. When provided on the remote control, you can also use the corresponding buttons.*

Inserting discs



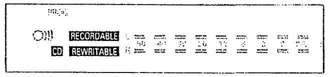
1 Press OPEN/CLOSE *(6)* to open the disc tray.

2 Insert a CD, CD-R or, CD-RW in the appropriate recess in the tray, label side up.

IMPORTANT:
For recording it is important that the blank disc is completely free from dust particles or scratches. (see Disc Maintenance, p.5).

3 Gently push the front of the tray or press OPEN/CLOSE to close the tray (see also Playing a CD).

→The display will show the type of disc you inserted.



- If a CD-R is finalized it will show **CD** on the display.
- If a CD-RW is finalized it remains a CD-ReWritable and will show **CD REWRITABLE** on your display.

If you insert a blank or partly-recorded CD-R or CD-RW, the CD recorder will calibrate the disc for optimum recording. During this process the display will first show OPC *and then the number of audio tracks. Calibration can take up to 25 seconds.*

Note: *Only Audio CDs will be accepted. If a non-audio disc is inserted, the display shows* NO AUDIO.

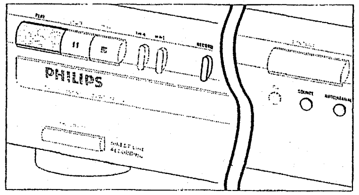
Remarks about recording

You will soon discover how easy it is to make your own CDs. Nevertheless, it is advisable to use a CD-RW disc for your first try. We will describe the 3 ways to make recordings:
- Digital unsynchronized
- Digital synchronized
- Analog

- The recording procedure is the same for CD-Rs or CD-RWs.
- If the disc is a CD-RW and is already finalized you must unfinalize it first *(p.15)*.
- If the disc already contains recordings, the CD recorder will automatically search for the end of the last track, so that recording can start from there.
- There must be at least 7 seconds of recording time left on the disc, otherwise you will not be able to enter record standby mode.
- If the display indicates **COPY PROHIBIT**, no digital recording can be made of the source material. Recording will not start or stops after 4 seconds.
- The **Serial Copy Management System** (SCMS) only allows digital recording under specific conditions:
  - This means that it is not possible to make a digital copy from a digital copy.
  - Analog recording is always possible !
  - The number of recordings from the original is unlimited.
- A maximum of 99 tracks can be recorded on a disc. Minimum allowable track length is 4 seconds.
- Digital recordings can be made from CDs (or other sources with an output Sample Frequency of 44.1 kHz +/- 100 ppm) via the digital input.

Important:
If you want to play the recorded CD-R disc on a regular CD player, it must first be finalized. See finalizing discs (p.15).
Finalized CD-RW discs play only on CD-RW compatible CD players.

Digital recording - unsynchronized

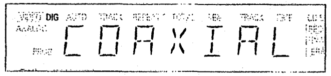


Preparing for digital recording

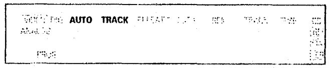
1 Make sure the disc is absolutely free of scratches and dust particles.

2 Press SOURCE repeatedly until (depending on the digital connection used):

→ **DIG** COAXIAL or **DIG** OPTICAL appears on the display.



3 Press AUTO/MANUAL to switch between auto and manual track numbering.
→ If AUTO is selected (preferred), **AUTO TRACK** appears on the display.

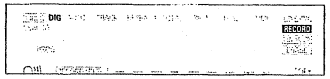


- AUTO: The track increments are automatically taken over from the digital source material.
- MANUAL: Track numbers can be incremented manually by pressing ►►I. (minimum track length is 4 sec).
  (This can also be done in AUTO mode).
- Track numbers cannot be changed after recording.

*Note: **AUTO TRACK** works only with Consumer Sources with a digital output signal according to the IEC 958 (consumer part) audio standard.*

Start digital recording

1 With the recorder stopped, press RECORD to enter the Record standby mode.
→ **RECORD** flashes.



- If **DIG** also flashes, the digital connection is incorrect.

2 To start recording, press PLAY and immediately start the source (from stop-mode).
→ **RECORD** lights continuously.The track number and recording time used appear on the display.

- To record a 3-second silence at the start of a track, press PAUSE.
- To check the (remaining) recording time, press DISPLAY. (This can also be done during the recording)

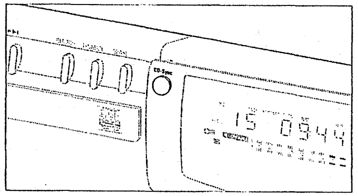
3 To stop recording, press STOP on the CD recorder.
→ **RECORD** goes out.

- To interrupt recording, press PAUSE.
→ **RECORD** starts to flash. Resume at step 2.

After recording the display will show UPDATE for several seconds.

*Note: With **AUTO TRACK** on, the recorder will stop automatically. Recordings from DAT or DCC will stop after 20 seconds silence.*
*With **AUTO TRACK** off, the **AUTO STOP** mode is disabled.*

Synchronized digital recording - CD-SYNC



Preparing for synchronized digital recording

The CD-SYNC feature enables you to make fast and easy digital recording of a CD. Track increments are automatically detected from the digital source material. Track increments cannot be added manually.

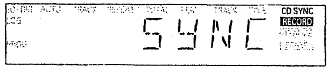
1 Make sure the disc is absolutely free of scratches and dust particles.

2 Press SOURCE repeatedly until (depending on the connection used):

→ **DIG** COAXIAL or **DIG** OPTICAL appears on the display.

Start synchronized digital recording

1 With the CD recorder stopped, press CD-SYNC.
→ On the display, **CD-SYNC** & SYNC appears. After a time, **RECORD** starts to flash.



- If **DIG** also flashes, the digital connection is incorrect.

2 To start recording, press PLAY on the digital source.
→ The CD recorder automatically starts to record and **RECORD** lights continuously. The track number and recording time used appear on the display

- If, however, you start the source during a track, CD-SYNC recording starts at the beginning of the next track.
- To check the (remaining) recording time, press DISPLAY. (This can also be done during recording)

3 To stop recording, press STOP on the CD recorder.
→ **CD-SYNC** and **RECORD** go out.

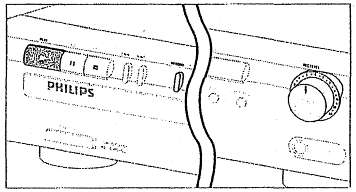
- To interrupt recording, press PAUSE.
→ **RECORD** starts to flash. To resume, press PLAY on the CD recorder.

After recording the display will show UPDATE for several seconds.

Note: - The CD recorder will not start until it recognizes a digital signal. Although the reaction time is less than 200 milliseconds, the very beginning of the music may sometimes not be recorded. If this happens, you can start the recording manually (see digital recording - unsynchronized).

- Recordings from DAT or DCC will only stop after 20 seconds silence.

Analog recording

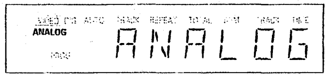


Only make analog recordings if digital recording is not possible.

Preparing for analog recording

1 Make sure the disc is absolutely free of scratches and dust particles.

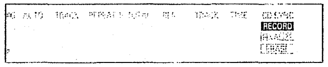
2 Press SOURCE repeatedly until:
→ **ANALOG** appears on the display.



3 Press AUTO/MANUAL to switch between auto and manual track numbering.
→ If Auto is selected (preferred), **AUTO TRACK** appears on the display.

- AUTO: The track number is automatically incremented after a silence on the original of minimum 3 seconds.
- MANUAL: Track numbers can be incremented manually by pressing ►►I. (minimum track length is 4 sec). (This can also be done in AUTO mode)
- Track numbers cannot be changed after recording.

4 With the recorder stopped, press RECORD to enter Record standby mode.
→ **RECORD** flashes



5 Play the source first to set the optimal recording level on the CD recorder.

6 Turn the REC LEVEL control so that, on the Record/Play Level bar, all the blue segments are alight, but the red segments do not light continuously during the loudest passages.

7 Stop the source.

Start analog recording

1 To start recording, press PLAY on the CD recorder and immediately start the source.
→ **RECORD** lights continuously.The track number and recording time used appear on the display.

- To record a 3-second silence at the start of a track, press PAUSE.
- To check the (remaining) recording time, press DISPLAY. (This can also be done during the recording)

2 To stop recording, press STOP on the CD recorder.
→ **RECORD** goes out.

- To interrupt recording, press PAUSE.
→ **RECORD** starts to flash. Resume at step 1.

After recording the display will show UPDATE for several seconds.

*Note: With **AUTO TRACK** on, the recorder will stop automatically after 20 seconds silence.
With **AUTO TRACK** off, the **AUTO STOP** mode is disabled.*

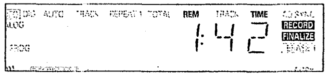
Finalizing CD-R & CD-RW discs

Finalizing is a simple procedure that is necessary in order to play the discs on a regular (non-recording) CD player.

Note: Finalizing prevents any further recording on a CD-R. A finalized CD-RW must be unfinalized to allow further recording or erasure of tracks.

1 Make sure the disc is absolutely free of scratches and dust particles.

2 With the recorder stopped press FINALIZE and then within 3 seconds press RECORD.



→ The approximate finalisation time appears in the display. Record & finalize lights up. The display counts down through the finalisation.
On completion, the total number of tracks and the total time recorded appears on the display.
For CD-R **CD RECORDABLE** becomes **CD** on display.
For CD-RW no change on display.

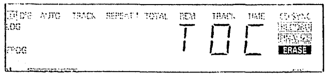
Finalizing will last at least 2 minutes.

Note: During finalisation, the CD recorder accepts no operating commands.

Unfinalizing CD-RW discs

For CD-RW discs only.
If you want to make more recordings (or erasures of tracks) on a finalized disc you must unfinalize it first. The Table of Contents (TOC) will be removed.

To unfinalize:
1 Press ERASE twice.
→ On the display, TOC and **ERASE** flash.



2 Press RECORD within 3 seconds.
→ TOC and **ERASE** light continuously during erasure.

Note: This will take approximately 1 minute.

Erasing CD-RW discs

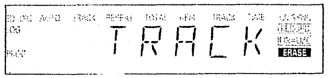
For CD-RW discs only.

You can erase:
- track by track from the end.
- the entire disc.

To erase the last track :

1 Make sure the disc is not finalized (Showing OPC on display during start up). Otherwise unfinalize first (p.15)

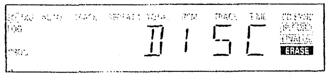
2 Press ERASE.
→ On the display, TRACK and **ERASE** flash.



3 Press RECORD within 3 seconds.
→ TRACK and **ERASE** light continuously during erasure.

To erase the entire disc:

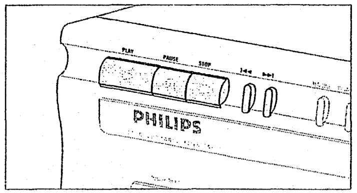
1 Press ERASE once (for finalized CD-RW) and twice (for unfinalized CD-RW)
→ On the display, DISC and **ERASE** flash.



2 Press RECORD within 3 seconds.
→ DISC and **ERASE** light continuously during erasure.

Erasure of a complete disc may take up to 1.5 minutes.

Playing a CD



1 Press PLAY to start CD play.
→ The track number and track time appear on the display, together with the record/play level indicator.

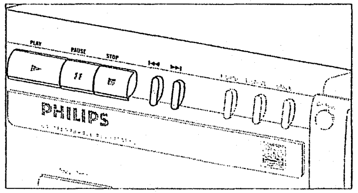
2 Press DISPLAY once, twice, or three times to see:
→ Remaining track time; Total remaining time; Track time with the record/play level bar off.

3 To interrupt play temporarily, press PAUSE.
→ **PAUSE** lights on the display

4 To continue play, press PAUSE again or press PLAY.

5 To stop play, press STOP.
→ The number of tracks and the total playing time appear on the display.

Selecting a track or searching



Selecting a track during play

1 Briefly press I◀◀ or ▶▶I one or more times.
→ Play skips to the beginning of the present, previous or subsequent tracks.

or
- Key in the required track number using the numerical keys on the remote control. For 2-digit track numbers, press the keys in rapid succession.
→ Play skips to the beginning of the selected track.

Selecting a track when CD play is stopped

1 Briefly press I◀◀ or ▶▶I one or more times.

2 Press PLAY.
→ Play starts at the selected track.

or
- Key in the required track number using the numerical keys on the remote control. For 2-digit track numbers, press the keys in rapid succession.

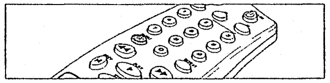
Searching during CD play

1 Hold down I◀◀ or ▶▶I (or ◀◀ or ▶▶ on the remote control).
→ The player first searches backwards or forwards at 10 times normal speed with sound at low volume, then goes to fast reverse or fast forward with sound muted.

2 Release the button at the desired passage.
→ Play starts at the desired passage.

Note: During Shuffle, Repeat or Programme play, search is restricted to within the track being played at the time.

Shuffle play



1 Press SHUFFLE (or PLAY) on the remote control before or during CD play to start shuffle play.
→ The tracks on the CD (or program if set) play in random order. SHUFFLE appears on the display between tracks.

2 Press SHUFFLE again to return to normal CD play.

Note: Shuffle is also cleared if you open the disc tray.

Repeat CD, track or program

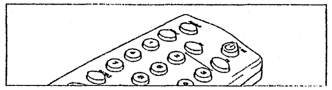
1 Press **REPEAT** on the remote control one or more times during CD play.
→ When **REPEAT 1** appears on the display, the current track plays repeatedly. When **REPEAT** appears on the display, the disc or programme plays repeatedly.

2 To return to normal play, press REPEAT one or more times until:
→ the repeat message disappears from the display.

Note:
- *You can use shuffle in combination with repeat CD or programme play.*
- *Repeat is also cleared if you open the disc tray.*

Programming

You can program up to 30 tracks to play in any desired sequence. Tracks can be programmed more than once, but each time counts as a track.



1 On the remote control press PROGRAM to start programming.
→ **PROG** flashes on the display.

2 Key in a track number with the number keys. For 2-digit numbers, press the keys in rapid succession.
→ On the display, the track number appears briefly, followed by the total programmed tracks and total programme time.

3 Repeat step 2 for all tracks to be programmed.

4 Press STOP or PROGRAM to end programming.
→ **PROG** lights continuously.

Note:
- *To review the program, press [I◀◀ or ▶▶I] in stop mode.*
- *To add more tracks to the programme, repeat steps 1 to 4.*
- *If you try to store more than 30 tracks, FULL appears on the display*

5 Press PLAY to start programmed play.

Clearing a program

1 Press STOP if necessary to stop programmed play.

2 Press STOP again to clear the program.
→ **PROG** disappears from the display.

Note: The program is also cleared if you open the disc tray.

Troubleshooting

If you think your CD recorder is defective, it is wise to check this list first and run the diagnostic program. Maybe you have forgotten a simple step.

Warning!
Under no circumstances should you attempt to repair the CD recorder yourself as this will invalidate the guarantee.

SYMPTOM: • SOLUTION:

No power
- ensure that the ON/OFF button is on
- ensure that the mains cable is plugged in correctly
- switch the recorder OFF and then immediately back ON

Auto track does not work
- check if auto track is selected.
- check if there are 3 seconds silence in between the tracks (analog recording only)
- check if the source is a consumer source with the digital output according the IEC audio standard.

No sound
- check the audio connections
- if using an amplifier, try using a different source

Amplifier sound is distorted
- check that the CD recorder analog output is not connected to the amplifier Phono input.

Play will not start
- ensure that the label of the CD is facing up
- clean the disc
- check that the disc is not defective by trying another disc

Remote control does not work
- point the remote control directly at the CD recorder
- check the batteries and replace if necessary

Will not record
- clean the disc.
- check if CD-RW is not finalized.
- check that the disc is recordable and replace if necessary
- the disc is not an AUDIO disc
- wrong input source choosen.

Analog recording is distorted
- make sure the recording level is correct

20 second pause between recordings
- see synchronized digital recording (CD-SYNC) *(p. 13)*

Player does not react
- switch the ON/OFF button on the front of the player off and back on

SERVICE **on display after switching on**
- try switching off and on again

RECOVER **on display**
- a power failure has occured during recording, the CD recorder is attempting to repair the disc.
- if RC-DISC then appears on the display, the disc cannot be recorded further, and cannot be finalized. But can be played on a CD recorder.
- on a CD-RW disc, the track being recorded is lost, but further recording and finalization can still be done.
- if OPC FAIL appears, no further recording is possible.
  You can still use the disc as a CD on this recorder.

Diagnostic program

If the malfunction continues, perform the Diagnostic Program:

1 Switch the recorder off using ON/OFF.

2 Simultaneously press PLAY and STOP and switch the recorder back on using ON/OFF.
→ The display will now indicate BUSY and after a few minutes, the message will change to ERROR or PASSED

- If the ERROR message appears, your recorder is defective and needs to be repaired. Consult your supplier or call the Philips Consumer Line to find the nearest service centre. The number of the Consumer Line can be found in the guarantee booklet.

- If the PASSED message appears, you may be misinterpreting the user instructions or using an inappropriate disc, or there may be a mechanical defect or an incorrect connection. Carefully read the user instructions once again; and if necessary contact your supplier.

- If you cannot solve the problem, contact to the nearest service centre.

3 Switch off the recorder using ON/OFF to exit from the Diagnostic Program.

Discs for recording

For recording use, special audio discs must be used (for music only). These Discs bear the logos as shown below. The text 'DIGITAL AUDIO' is present ! Copyright fees have been paid on these discs in some countries.

Your recorder uses two types of discs for recording purposes:

- **CD-Audio Recordable** (CD-R) discs:
  Fully recorded and finalized, these discs play on all CD players and recorders.

- **CD-Audio ReWritable** (CD-RW) discs:
  Can be recorded, erased and re-recorded hunderds of times. When finalized, they play on **CD-RW compatible** CD players and recorders.
  In the course of 1999 most Philips CD players and recorders will be CD-RW compatible.

Discs for playback

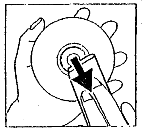
Your CD recorder is able to play:

- All prerecorded audio CDs, and combined CDs such as CD Extra.
- All Audio CD-R and Audio CD-RW.

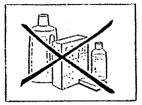
Note: *CD-R discs recorded with a computer can only be used when they are correctly treated according the audio standard (IEC958: Consumer part).*
Single session only!

Maintenance

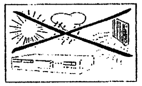
For recording it is very important to use dust and scratch free discs.



To clean a CD, wipe it in a straight line from the center toward the edge using a soft, lint-free cloth. A cleaning agent may damage the disc! Write only on the printed side of a CD-R or CD-RW, and only with a soft felt-tipped pen.



Clean the CD recorder with a soft, slightly dampened lint-free cloth. Do not use any cleaning agents as they may have a corrosive effect.



Do not expose the CD recorder, batteries or CDs to humidity, rain, sand or excessive heat (caused by heating equipment or direct sunlight).

If the CD recorder cannot read CDs correctly use a commonly available cleaning CD to clean the lens before taking the CD player to repair. Other cleaning methods may destroy the lens. Always keep the tray closed to avoid dust on the lens.

The lenses may cloud over when the CD recorder is suddenly moved from cold to warm surroundings. Playing a CD is not possible then. Leave the CD recorder in a warm environment until the moisture evaporates.

Accessories

- 2 Analog audio cables (with red and white plugs)
- 1 Digital coaxial cable (with black plugs)
- Power cord
- 2 Batteries
- Remote control
- Guarantee

TECHNICIAN NOTES

(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ESD

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor elektrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise a leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller a ce que les composants ainsi que les outils que l'on utilise soient également a ce potentiel.

(D) WARNUNG

Alle IC und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).
Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern.
Sorgen sie dafür, das Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevita potrebbe essere fortemente ridatta in caso di non osservazione della piu grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt terug gebracht en dat onderdelen, identiek aan de gespecifieerde worden toegepast.

(D)

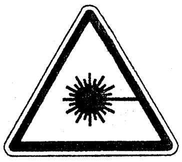
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten.
Der Originalzustand des Gerats darf nicht verandert werden.
Fur Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago idetici a quelli specificati.

(F)

Les normes de sécurité exigent que l'appareil soit remis a l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.



CAUTION	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
VARO!	AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTTEILYLLE ÄLÄ KATSO SÄTEESEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.
ADVERSEL	USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSAETTELSE FOR STRÅLING.
DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

SHOCK, FIRE HAZARD SERVICE TEST:

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom,
Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before return to user/customer.
Ref.UL Standard NO.1492.

NOTE ON SAFETY:

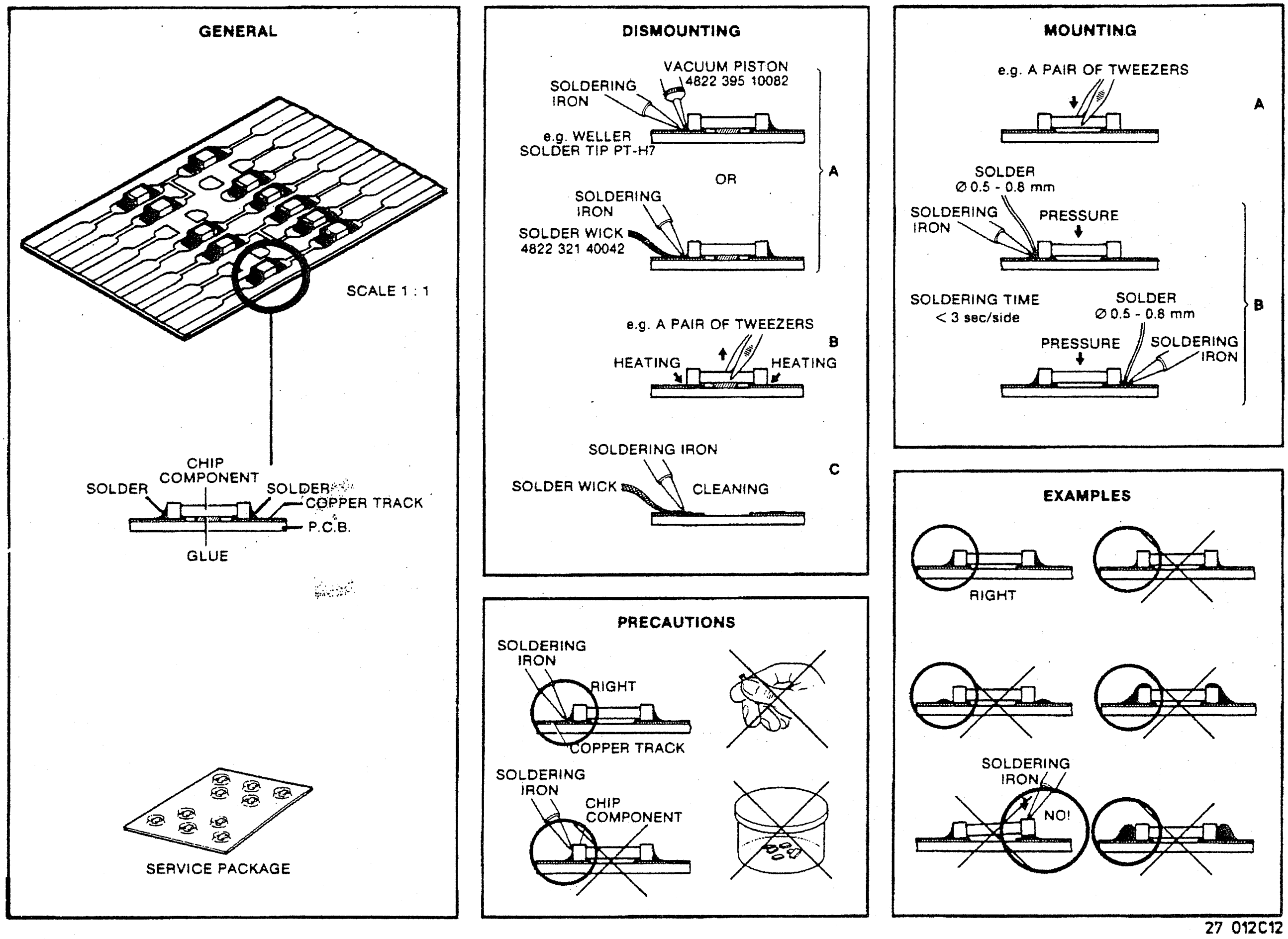
Symbol ⚠ : Fire or electrical shock hazard. Only original parts should be used to replace any part with symbol ⚠
Any other component substitution(other than original type), may increase risk or fire or electrical shock hazard.

CLASS 1
LASER PRODUCT
3122 110 03420

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agrées, seuls habilités à réparer votre appareil en panne."

SERVICING HINTS

In the set chip components have been applied. For disassembly and assembly of chip components see the figure below.


GENERAL
SCALE 1 : 1
CHIP COMPONENT
SOLDER
SOLDER
COPPER TRACK
P.C.B.
GLUE
SERVICE PACKAGE
DISMOUNTING
VACUUM PISTON
4822 395 10082
SOLDERING IRON
e.g. WELLER SOLDER TIP PT-H7
OR
A
SOLDERING IRON
SOLDER WICK
4822 321 40042
e.g. A PAIR OF TWEEZERS
B
HEATING
HEATING
SOLDERING IRON
C
SOLDER WICK
CLEANING
PRECAUTIONS
SOLDERING IRON
RIGHT
COPPER TRACK
SOLDERING IRON
CHIP COMPONENT
MOUNTING
e.g. A PAIR OF TWEEZERS
A
SOLDER
Ø 0.5 - 0.8 mm
SOLDERING IRON
PRESSURE
SOLDERING TIME
< 3 sec/side
SOLDER
Ø 0.5 - 0.8 mm
B
PRESSURE
SOLDERING IRON
EXAMPLES
RIGHT
SOLDERING IRON
NO!

27 012C12

SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors(SBC444) and disc with DO errors, black spots and fingerprints(SBC444A)	4822 397 30245
Disc(65 min , 1 kHz) without no pause	4822 397 30155
Maximum diameter disc(58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132

SAFETY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

Important

Proper service and repair is important to the safe, reliable operation of all Philips equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

Safety Checks

After the original service problem has been corrected, a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition, which could be unknowingly passed on to your customer. Be sure to check all of the following:

Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those units which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barriers, covers, strain reliefs, and other hardware have been installed according to the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints, solder splashes, sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord). Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout, lead length, and dress.
5. No lead or component should touch a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with a ⚠ by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematic diagrams and/or exploded views.

   Replacement parts without the same safety characteristics may create shock, fire, or other hazards.
7. When servicing any unit, always use a separate isolation transformer for the chassis. Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug). Defeating this safety feature may create a potential hazard to the servicer and the user. Extension cords which do not incorporate the polarizing feature should never be used.

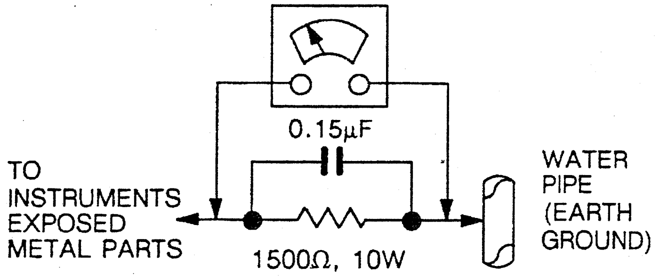
Fire and Shock Hazard (Continued)

9. After reassembly of the unit, always perform an ac leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also, check all metal control shafts (with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit is safe to operate without danger of electrical shock.

* Broken line: ▬ ▪ ▬ ▪ ▬ ▪ ▬ ▪ ▬ ▪

Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely reassembled unit directly into the ac outlet.
2. Connect a 1.5k, 10W resistor paralleled by a 0.15uF. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms/volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed. (Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Parts Replacement

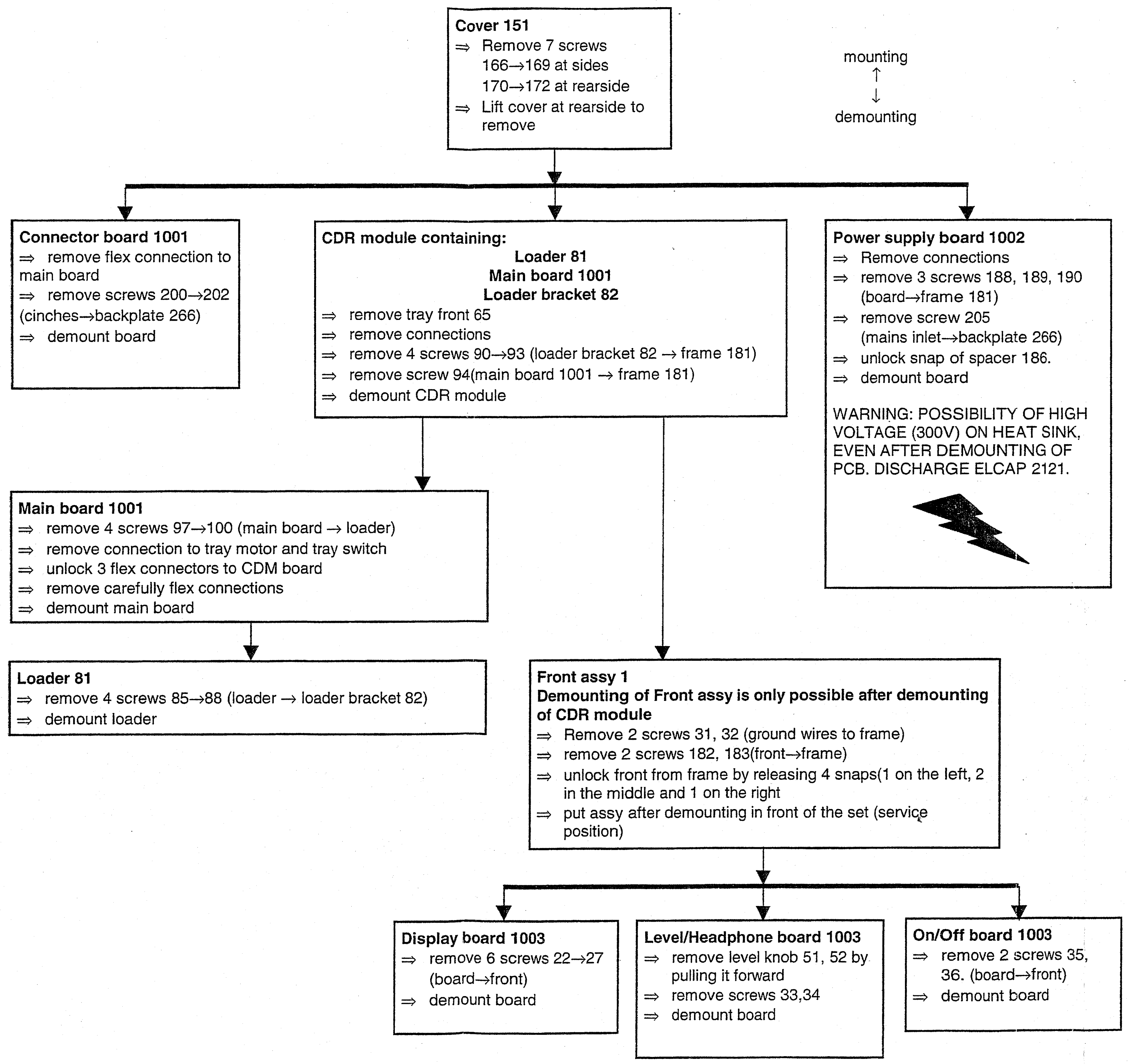
1. Many electrical and mechanical parts in Philips equipment have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.
2. All ICs and many other semiconductor parts are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce the life of the part drastically.

LASER NOTE:

DANGER - Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
CAUTION - The use of optical instruments with this product will increase eye hazard.

DISMANTLING INSTRUCTIONS

See exploded view for item numbers



Cover 151
- ⇒ Remove 7 screws 166→169 at sides 170→172 at rearside
- ⇒ Lift cover at rearside to remove

Connector board 1001
- ⇒ remove flex connection to main board
- ⇒ remove screws 200→202 (cinches→backplate 266)
- ⇒ demount board

CDR module containing:
Loader 81
Main board 1001
Loader bracket 82
- ⇒ remove tray front 65
- ⇒ remove connections
- ⇒ remove 4 screws 90→93 (loader bracket 82 → frame 181)
- ⇒ remove screw 94(main board 1001 → frame 181)
- ⇒ demount CDR module

Power supply board 1002
- ⇒ Remove connections
- ⇒ remove 3 screws 188, 189, 190 (board→frame 181)
- ⇒ remove screw 205 (mains inlet→backplate 266)
- ⇒ unlock snap of spacer 186.
- ⇒ demount board

WARNING: POSSIBILITY OF HIGH VOLTAGE (300V) ON HEAT SINK, EVEN AFTER DEMOUNTING OF PCB. DISCHARGE ELCAP 2121.

Main board 1001
- ⇒ remove 4 screws 97→100 (main board → loader)
- ⇒ remove connection to tray motor and tray switch
- ⇒ unlock 3 flex connectors to CDM board
- ⇒ remove carefully flex connections
- ⇒ demount main board

Loader 81
- ⇒ remove 4 screws 85→88 (loader → loader bracket 82)
- ⇒ demount loader

Front assy 1
Demounting of Front assy is only possible after demounting of CDR module
- ⇒ Remove 2 screws 31, 32 (ground wires to frame)
- ⇒ remove 2 screws 182, 183(front→frame)
- ⇒ unlock front from frame by releasing 4 snaps(1 on the left, 2 in the middle and 1 on the right
- ⇒ put assy after demounting in front of the set (service position)

Display board 1003
- ⇒ remove 6 screws 22→27 (board→front)
- ⇒ demount board

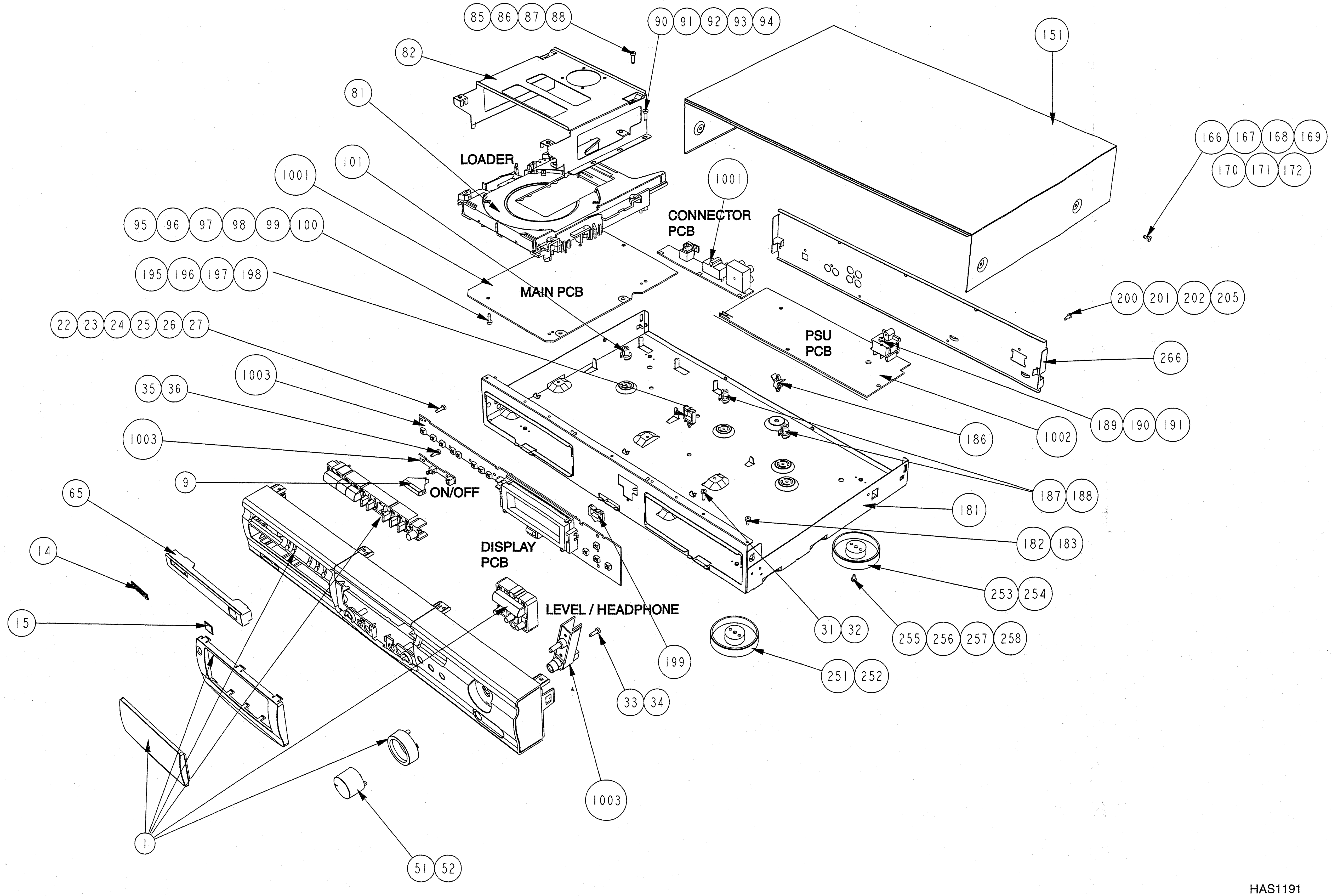
Level/Headphone board 1003
- ⇒ remove level knob 51, 52 by pulling it forward
- ⇒ remove screws 33,34
- ⇒ demount board

On/Off board 1003
- ⇒ remove 2 screws 35, 36. (board→front)
- ⇒ demount board

MECHANICAL PARTSLIST

1	4822 459 05084	FRONT ASSY CDR760 BLACK /xx VERSIONS
1	4822 459 05086	FRONT ASSY.CDR760 GREY /xxS VERSIONS
9	4822 410 11962	POWER BUTTON BLACK /xx VERSIONS
9	4822 410 11964	POWER BUTTON GREY /xxS VERSIONS
14	4822 459 10887	WORDMARK LOGO
15	4822 454 13339	CDRW - LOGO
51	4822 410 11963	REC.LEVEL KNOB ASSY BLACK /xx VERSIONS
51	4822 410 11965	REC LEVEL KNOB ASSY GREY /xxS VERSIONS
52	4822 492 51374	SPRING
65	4822 459 05085	TRAY FRONT ASSY BLACK /xx VERSIONS
65	4822 459 05087	TRAY FRONT LEFT ASSY GREY /xxS VERSIONS
81	4822 691 10737	CDR LOADER CDL3610/01
151	4822 442 01506	COVER
251-252	4822 462 42159	FOOT SILVER
253-254	4822 462 42158	FOOT BLACK
301⚠	4822 321 10249	SBC1201 MAINS CABLE /00/11S/13S VERSION
301⚠	4822 321 10445	MAINSCORD JAPAN /06S VERSION
301⚠	4822 321 10939	MAINS CORD /17 VERSION
312	4822 321 11357	AUDIO CORD SET
317	4822 321 61452	DIG OUT CABLE L=1000M M RCA
318	4822 219 10559	REMOTE CONTROL RC07110/01
1001	4822 214 12804	MAINBOARD ASSY CDR760
1002	4822 218 11938	POWER SUPPLY 20PS314/00 FOR /00/06S/11S/13S
1002	4822 218 11967	POWER SUPPLY 20PS314/17 FOR /17

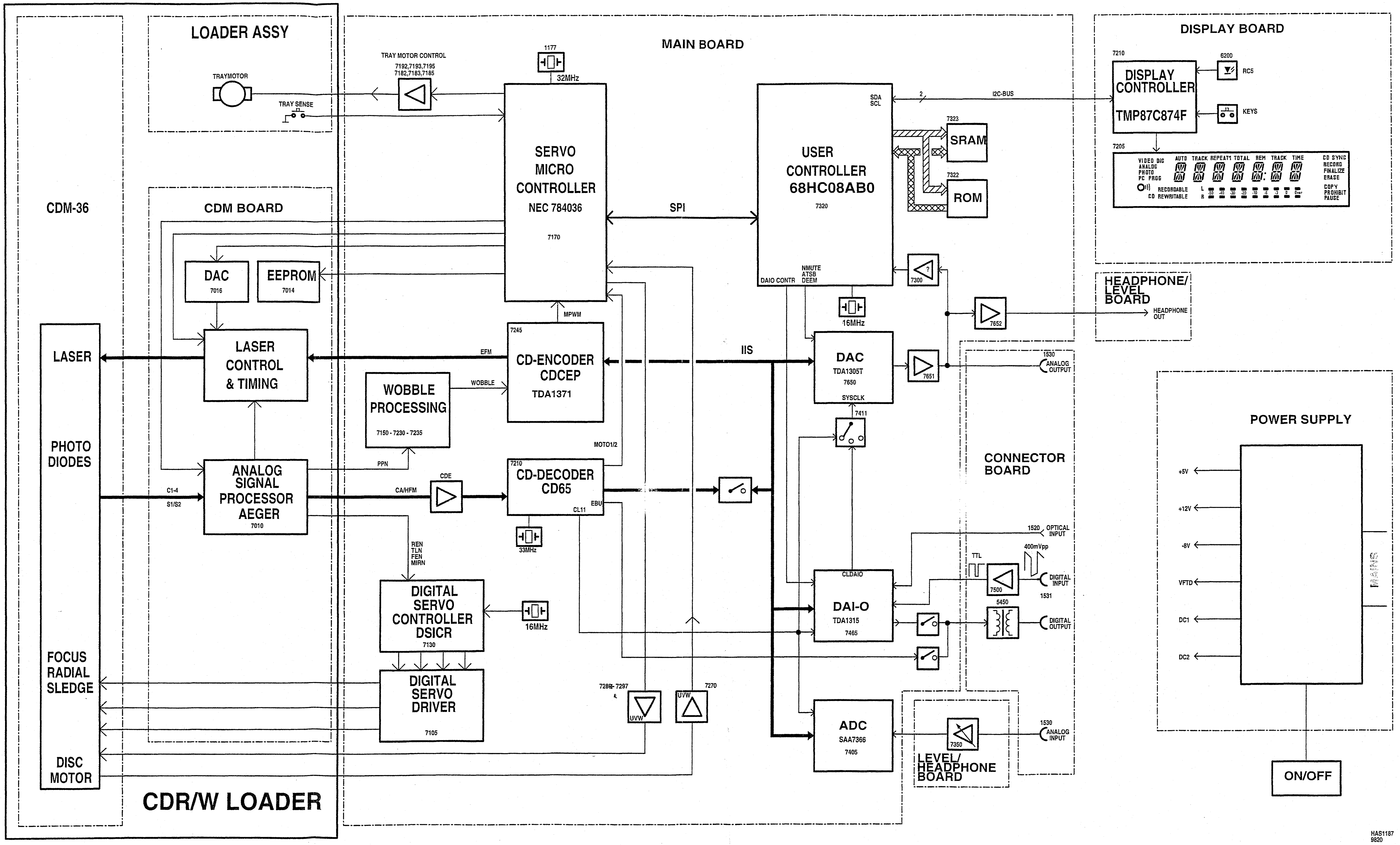
EXPLODED VIEW



85 86 87 88
90 91 92 93 94
151
82
81
LOADER
101
1001
166 167 168 169
170 171 172
1001
CONNECTOR PCB
95 96 97 98 99 100
195 196 197 198
MAIN PCB
200 201 202 205
PSU PCB
22 23 24 25 26 27
266
1003
35 36
186
1002
189 190 191
1003
9
ON/OFF
187 188
65
181
DISPLAY PCB
182 183
14
253 254
LEVEL / HEADPHONE
15
31 32
255 256 257 258
199
251 252
33 34
1003
1
51 52

HAS1191
9824

OVERALL BLOCKDIAGRAM


CDM-36
LOADER ASSY
TRAYMOTOR
TRAY SENSE
CDM BOARD
DAC
7016
EEPROM
7014
LASER
LASER CONTROL & TIMING
PHOTO DIODES
C1-4
S1/S2
ANALOG SIGNAL PROCESSOR AEGER
7010
FOCUS RADIAL SLEDGE
DISC MOTOR
DIGITAL SERVO CONTROLLER DSICR
7130
DIGITAL SERVO DRIVER
7105
16MHz
CDR/W LOADER
MAIN BOARD
TRAY MOTOR CONTROL
7192,7193,7195
7182,7183,7185
1177
32MHz
SERVO MICRO CONTROLLER
NEC 784036
7170
SPI
MPWM
7245
CD-ENCODER CDCEP
TDA1371
EFM
WOBBLE
WOBBLE PROCESSING
7150 - 7230 - 7235
PPN
MOTO1/2
CDE
CA/HFM
7210
CD-DECODER CD65
EBU
CL11
33MHz
REN
TLN
FEN
MIRN
7286-7297
UVW
7270
UVW
IIS
USER CONTROLLER 68HC08AB0
7320
SDA
SCL
DAIO CONTR
NMUTE
ATSB
DEEM
2
I2C-BUS
7323
SRAM
7322
ROM
?
7300
16MHz
DAC
TDA1305T
7650
SYSCLK
7411
7651
7652
DAI-O
TDA1315
7465
CLDAIO
ADC
SAA7366
7405
DISPLAY BOARD
7210
DISPLAY CONTROLLER
TMP87C874F
6200
RC5
KEYS
7205
VIDEO DIG
ANALOG
PHOTO
PC PROG
AUTO
TRACK
REPEAT1
TOTAL
REM
TRACK
TIME
CD SYNC
RECORD
FINALIZE
ERASE
RECORDABLE
CD REWRITABLE
L
R
-50
-40
-30
-20
-10
-6
-3
0
Over
COPY
PROHIBIT
PAUSE
HEADPHONE/ LEVEL BOARD
HEADPHONE OUT
CONNECTOR BOARD
1530
ANALOG OUTPUT
1520
OPTICAL INPUT
TTL
400mVpp
7500
DIGITAL INPUT
1531
5450
DIGITAL OUTPUT
1530
ANALOG INPUT
7350
LEVEL/ HEADPHONE BOARD
POWER SUPPLY
+5V
+12V
-8V
VFTD
DC1
DC2
MAINS
ON/OFF
HAS1187
9820

SIGNALS AND ABBREVIATIONS

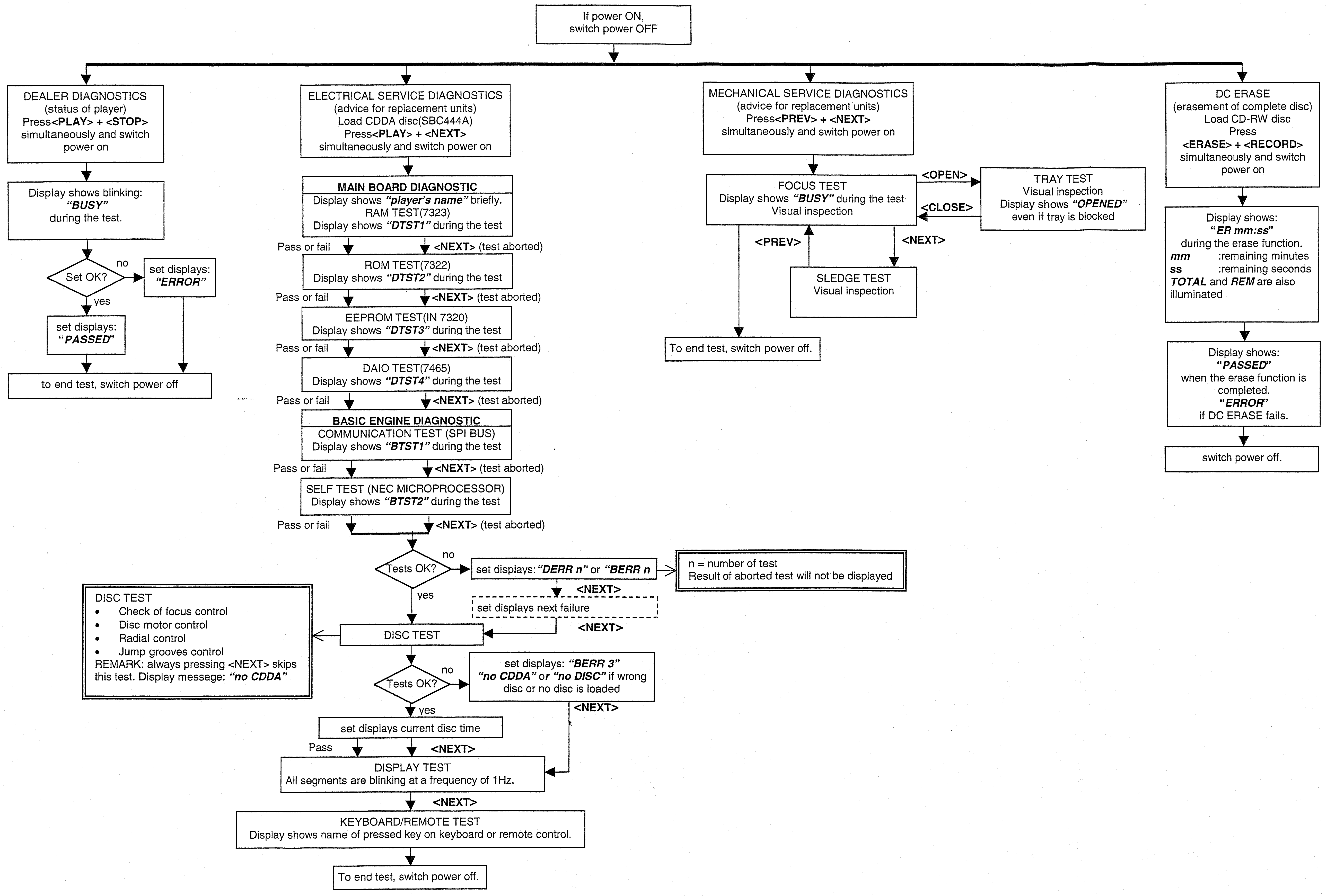
SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
+12Va	Supply voltage	Single power supply +12V for op-amps 7150, 7235
+12Vb	Supply voltage	Power supply +12V for op-amps
+4V	Supply from CDR loader	Power supply +4V for servo microcontroller
+5Va	Supply voltage	Analog power supply +5V
+5Vb	Supply voltage	Digital power supply +5V
+5VDS	Supply voltage	Power supply +5V for Connector Part
+5VM	Supply voltage	Power supply turntable motor control circuit
-8Va	Supply voltage	Power supply -8V
A1A	IC7170→CONN.1101	Calculation β and HF0 Positive peak detector between CA and CALF
A2A	IC7170→CONN.1101	Beta = (A1-A2)/(A1+A2) Negative peak detector between CA and CALF
ACK	IC7320↔R3904(IC7170)	Acknowledge serial communication user microprocessor
AD[0:18]	IC7320→IC7322 IC7320→IC7323	External address bus of user processor
ADC		Analog/Digital Converter
ANACD	IC7320→IC7605	Control signal dubbing analog for protected tracks
ANAIN1	IC7320→IC7601	Control signal level setting analog input
ANAIN2	IC7320→IC7601	Control signal level setting analog input
ATSB	IC7320→IC7650	Attenuation 12 dB of DAC(active low) during search
BS	IC7320→IC7440	Block synchronisation
CA	CONN.1101→R3299	Central Aperture(C1+C2+C3+C4)DC →for Mod. calculation
CALF	IC7170→CONN.1101	CA low frequency
CD60		Decoder
CD60CLK	IC7210→IC7403	I2S clock from CD60
CD60WS	IC7210→IC7403	I2S word select from CD60
CDAICL	IC7320→IC7465	DAI-O interface clock
CDAIDA	IC7320↔IC7465	DAI-O interface data
CDAILD	IC7320→IC7465	DAI-O interface mode
CDCEP		CD-Circ Efm Encoder Plus
CDE	IC7170→R3255	CD erase
CDTRAYO	IC7320→CONN1380	CD loader tray open (CDR765) (not used)
CDTRAYC	IC7320→CONN1380	CD loader tray closed (CDR765) (not used)
CE_INT	IC7170←IC7245	CDCEP interrupt
CFLG	IC7210→CONN.1250	Correction flag output(CD60)
CL11	IC7210→IC7411	11.2896 MHz systemclock for ADC/DAC
CL16	IC7210→IC7241	164344 MHz systemclock (not used)
CLCE	IC7170→IC7245	µP clock output encoder(CD60)
CLDAIO	IC7465→IC7411	Clock output DAIO
CLDE	IC7170→IC7210	µP clock output decoder(CD60)
CLDS	IC7170→IC7130	µP clock output DSICR
CLKC0	IC7241→CONN1360	System clock for CD player (CDR765)
CLKCDCEP	IC7260→IC7245	I2S clock to CDCEP
CLKN2	CONN1360→IC7260	I2S clock from CD player (CDR765)
CLKQ	IC7245→IC7240 IC7245→IC7241	PLL clock output from encoder
CLKQD	IC7241→IC7240	CLKQ divided by 2
CLO3	IC7440→IC7411	GDIN clock3 out: system clock for DAC (option)
CLWP	IC7170→IC7245	µP clock Atip information CDCEP
COMCLK	IC7320↔R3165(IC7170)	Communication clock for data transfer from user microprocessor
COMSYNC	IC7320↔IC7170	Communication synchronisation from user microprocessor
CRIN	IC7440→IC7210	GDIN clock1 out: system clock for decoder CD60 (option)
CSRAM	IC7320→IC7323	Chip Select RAM

CSROM	IC7320→IC7322	Chip Select ROM
D[0:7]	IC7320↔IC7322 IC7320↔IC7323 IC7320↔IC7324	Data bus
DAC		Digital/Analog Converter
DACDCEP	IC7260↔IC7245	I2S data to CDCEP
DACE	IC7170→IC7245	µP data I/O CDCEP
DACL	IC7170→CONN.1102	DAC clock
DADE	IC7170→IC7210	uP data CDLIP
DADI	IC7170→CONN.1102	DAC data in (CDM)
DADS	IC7170→IC7130	µP data I/O DSICR
DAIN	IC7465↔IC7245	Data signal(CDCEP)
DAI-O		Digital Audio Input/Output
DAIO_REC	IC7325→IC7403	high during recording from digital in source, low to prevent conflict in IIS bus during playback and analog recording(option)
DALD	IC7170→CONN.1102	DAC load(CDM)
DAN2	CONN1360↔IC7260	I2S data from CD player (CDR765)
DAOUT	R3217(IC7210)→IC7403	I2S data output(CD60)
DATADIR	IC7320→IC7403	Data direction: control signal, HIGH during playback
DAWP	IC7170→IC7245	µP data Atip information(CDCEP)
DEEM1	IC7320→IC7650	Deemphasis active(44.1 kHz sample rate)
DIGIN	IC7410→IC7465 IC7410→IC7440	Digital input signal to DAIO and GDIN
DIGINEXT	CONN1400→IC7410	Digital input
DIGOUT	IC7465→CONN.1400	Digital output
DIGSW1	IC7320→IC7410	Control signal for digital input/output selection
DIGSW2	IC7320→IC7410	Control signal for digital input/output selection
DSA_ACK	IC7320→CONN1360	Data/strobe/acknowledge serial communication from USER uP to CD player (CDR765)
DSA_DATA	IC7320→CONN1360	Data/strobe/acknowledge serial communication from USER uP to CD player (CDR765)
DSA_STROBE	IC7320→CONN1360	Data/strobe/acknowledge serial communication from USER uP to CD player (CDR765)
DSICR		Digital Servo IC Recordable
EBUCD60	IC7210→IC7410	Digital out signal from CD60
EBUDAIO	IC7465→IC7410	Digital out signal from DAIO
EBUININT	CONN1360→IC7410	Digital input from CD player (CDR765)
EECL	IC7170→CONN.1102	EEPROM clock
EEDA	IC7170↔CONN.1102	EEPROM data
EFM	IC7245→IC7205	Eight to Fourtheen Modulation CDCEP output for monitoring (reduced voltage from CD60 to MONON)
EFMCLK	IC7245→CONN.1102	EFM clock 4.3218 or 8.6436 MHz
EFMM	IC7245→CONN.1102	EFM N-1
FEN	CONN.1101→IC7130	Focus Error Normalized = (C1 + C3 - C2 - C4)/(C1 + C2 + C3 + C4)
FEOFS	IC7170→R3133	Focus Error OFF Switch
FOC-	IC7105→CONN.1101	Focus actuator negative connection
FOC+	IC7105→CONN.1101	Focus actuator positive connection
FS	CONN.1102→R3152	FS = FS0 - DALFA(write power to laser control)
FSM	CONN.1102→D6155	Focused sense monitor
GDIN		General Digital Input (option)
GDINCL	IC7320→IC7440	GDIN interface clock
GDINDA	IC7320↔IC7440	GDIN interface data
GDINLD	IC7320→IC7440	GDIN interface mode
HALL_U, V, W	IC7170→IC7270 IC7170→IC7280	Hall element U, V, W of motor

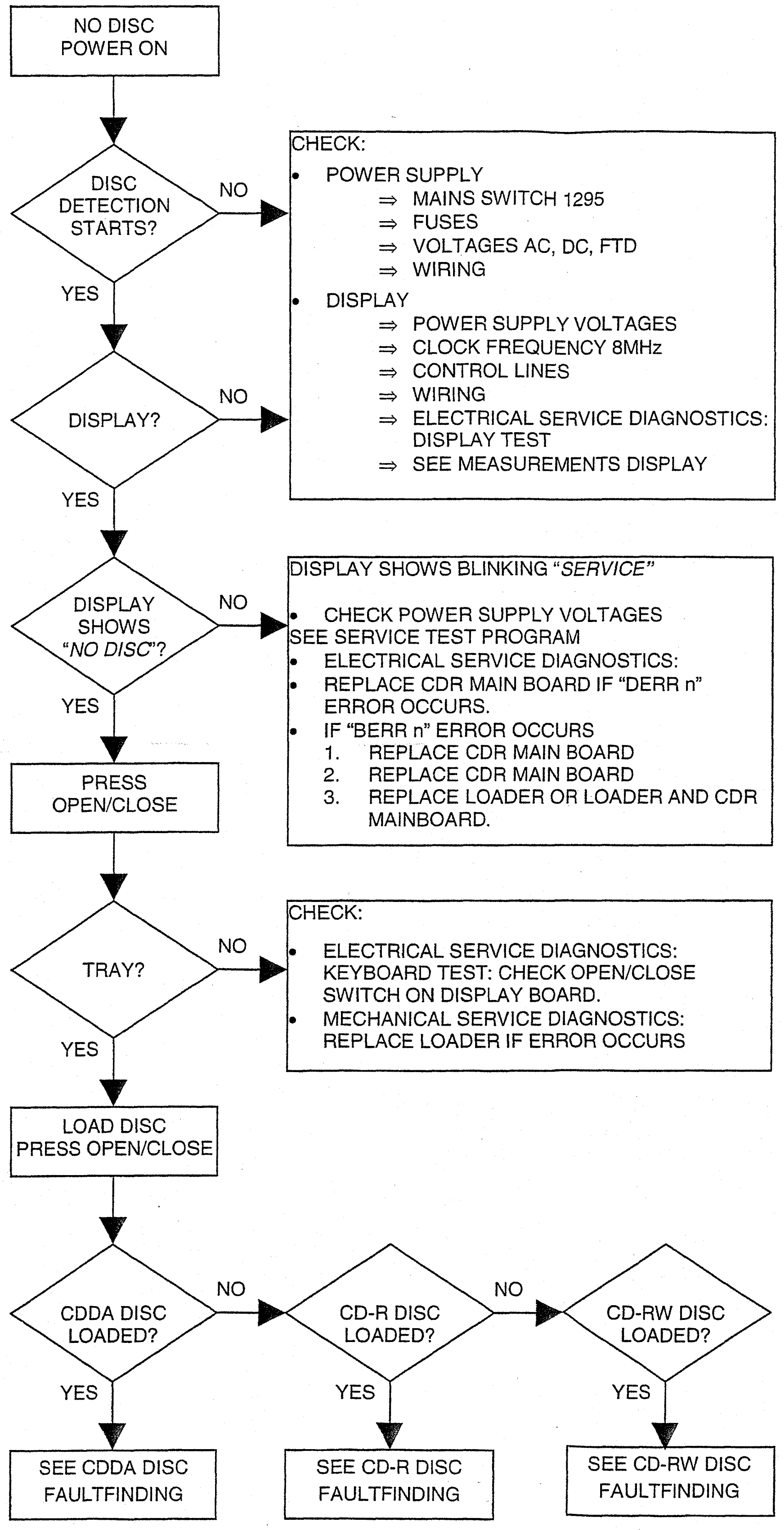
HMSW	CONN.1101→IC7170	Home Switch
IISCLK	IC7603→IC7465 IC7603→IC7245 IC7403→IC7650	I2S-BUS clock
IISWS	R3219(IC7210)→IC7403	I2S-BUS word select
INTSLAVE	CONN1330→IC7320	Slave processor interrupt
KILL	T7446→R3671,3672	Kill signal to mute analog output signal
KILL_OUT	IC7320→R3473	Control signal to activate Kill signal
LDCE	IC7170←IC7245	μP load input(from CDCEP)
LDDE	IC7170→IC7210	μP load output decoder
LDDS	IC7170→IC7130	μP load output DSICR
LDON	IC7130→CONN.1102 IC7105→CONN.1102	Laser Diode ON(on read)
LEFTOUT	C2497→CONN.1400 C2497→CONN.1420 C2497→C2300	Analog left output
LWRT	IC7245→CONN.1102	Laser at writing power
MIRN	CONN.1101→IC7130	Mirror normalized
MISO	IC7320↔R3168(IC7170) IC7320↔CONN.1300	Master in, Slave out: data from Basic Engine to USER.
MONON	IC7170→IC7205	Monitoring EFM from CDCEP to CD60
MOSI	IC7320↔R3903(IC7170) IC7320↔CONN.1300	Master out, Slave in : data from USER to Basic Engine
MOTO1	IC7210→IC7170	Control signal for motor
MPWM	IC7170→IC7245	Motor Pulse Width Modulation
N=2	IC7320→IC7260	Control signal to close switch when dubbing (n = 2 !)
N2	IC7170→IC7240 IC7170→IC7205	N = high(double speed)
N4	IC7170→IC7205	N = high(fourfold speed)
NCLOSE	IC7170→R3196	Tray close (CDR loader)
NIRQ	IC7170→IC7245	Interrrupt request wobble processing(CDCEP)
NMUTE	IC7320→IC7650	Mute signal (active low)
NOPEN	IC7170→R3181	Tray open (CDR loader)
NRSMP	IC7245→CONN.1102	None read sample
OPTIN	CONN.1400→IC7440 CONN.1400→IC7465	Optical input
OTD	IC7130→IC7170	Off track dectection DISCR
OVLD	IC7603→IC7320	Overload flag input
PP	CONN.1101→C2231	XB or PPN(read or write)
PWM	IC7170→R3268	Pulse width modulation
R/W	IC7320→IC7324	μP read/write signal
RAD-	IC7105→CONN.1101	Radial actuator negative connection
RAD+	IC7105→CONN.1101	Radial actuator positive connection
RADINT	IC7170→R3111	Radial actuator integrator voltage.
REN	CONN.1101	Radial Error Normalized
RENSW	IC7170→R3124	Radial Error Normalized switch
RESEN	IC7170→IC7245 IC7170→IC7130	Reset encoder(CDCEP) and digital servo(DSICR)
RESET	IC7170→IC7210	Reset decoder CD60
RIGHTOUT	C2498→CONN.1400 C2498→CONN.1420 C2498→C2303	Analog right output
RSTHA	IC7325→IC7465	Reset high active, reset for DAIO
RSTIN	IC7320→IC7325	Reset microcontroller(from user μP)
RSTLA	IC7325→IC7440	Reset low active, reset for GDIN, servo uP, DSD3, DSICR and display.

	IC7325→IC7170 IC7325→D6130 IC7325→CONN.1330	
RXD	IC7320↔IC7325	Receive data of serial interface
SCL	IC7320↔L5300	I2C-bus clock for communication
SCLI	IC7320→T7326	I2C-bus clock Input to check “busy” of slave
SDA	IC7320↔L5300	I2C-bus data to display driver
SDAUX	IC7603→IC7440	Analog to digital converted data from ADC to DAI-O
SL-	IC7105→CONN.1101	Sledge motor negative connection
SL+	IC7105→CONN.1101	Sledge motor positive connection
STROBE	IC7320→IC7465 IC7320→CONN.1302	Control signal for DAI-O : data strobe
SWRT	IC7245→CONN.1102	Start Write 9ms(one shot at start up LWRT)
SYSCKLSW2	IC7320→IC7411	Control signal for system clock selection
SYSCLKSW1	IC7320→IC7411	Control signal for system clock selection
SYSSYNC	IC7170→CONN.1135	System synchronization
TLN	CONN.1101→IC7130	Track Loss Normalized
TRAYSW	CONN1380→IC7320	Control signal from CD loader (CDR765)
TRS1N	IC7170→CONN.1103	Tray sense
TXD	IC7320↔IC7325	Transmit data serial interface
UDAVAIL	IC7320→IC7465	User-data available
UNLOCK	IC7465→IC7320	Not locked on incoming EBU-signal
UNLOCK_GDIN	IC7323→R3435	Unlock signal to GDIN
V4	IC7210→CONN.1250	Versatile pin 4
VDC1	Supply voltage	Filament voltage for display
VDC2	Supply voltage	Filament voltage for display
VFTD	Supply voltage	Power supply for display
WCLK	IC7210→IC7245	Word clock
WSCDCEP	IC7260→IC7245	I2S word select to CDCEP
WSN2	CONN1360→ IC7260	I2S word select from CD player (CDR765)

SERVICE TEST PROGRAM


If power ON, switch power OFF
DEALER DIAGNOSTICS (status of player) Press<PLAY> + <STOP> simultaneously and switch power on
Display shows blinking: "BUSY" during the test.
Set OK?
no
set displays: "ERROR"
yes
set displays: "PASSED"
to end test, switch power off
ELECTRICAL SERVICE DIAGNOSTICS (advice for replacement units) Load CDDA disc(SBC444A) Press<PLAY> + <NEXT> simultaneously and switch power on
MAIN BOARD DIAGNOSTIC
Display shows "player's name" briefly.
RAM TEST(7323)
Display shows "DTST1" during the test
Pass or fail
<NEXT> (test aborted)
ROM TEST(7322)
Display shows "DTST2" during the test
Pass or fail
<NEXT> (test aborted)
EEPROM TEST(IN 7320)
Display shows "DTST3" during the test
Pass or fail
<NEXT> (test aborted)
DAIO TEST(7465)
Display shows "DTST4" during the test
Pass or fail
<NEXT> (test aborted)
BASIC ENGINE DIAGNOSTIC
COMMUNICATION TEST (SPI BUS)
Display shows "BTST1" during the test
Pass or fail
<NEXT> (test aborted)
SELF TEST (NEC MICROPROCESSOR)
Display shows "BTST2" during the test
Pass or fail
<NEXT> (test aborted)
Tests OK?
no
set displays: "DERR n" or "BERR n
n = number of test
Result of aborted test will not be displayed
<NEXT>
set displays next failure
<NEXT>
yes
DISC TEST
DISC TEST
• Check of focus control
• Disc motor control
• Radial control
• Jump grooves control
REMARK: always pressing <NEXT> skips this test. Display message: "no CDDA"
Tests OK?
no
set displays: "BERR 3" "no CDDA" or "no DISC" if wrong disc or no disc is loaded
<NEXT>
yes
set displays current disc time
Pass
<NEXT>
DISPLAY TEST
All segments are blinking at a frequency of 1Hz.
<NEXT>
KEYBOARD/REMOTE TEST
Display shows name of pressed key on keyboard or remote control.
To end test, switch power off.
MECHANICAL SERVICE DIAGNOSTICS (advice for replacement units) Press<PREV> + <NEXT> simultaneously and switch power on
FOCUS TEST
Display shows "BUSY" during the test
Visual inspection
<OPEN>
<CLOSE>
TRAY TEST
Visual inspection
Display shows "OPENED" even if tray is blocked
<PREV>
<NEXT>
SLEDGE TEST
Visual inspection
To end test, switch power off.
DC ERASE (erasement of complete disc) Load CD-RW disc Press <ERASE> + <RECORD> simultaneously and switch power on
Display shows: "ER mm:ss" during the erase function.
mm :remaining minutes
ss :remaining seconds
TOTAL and REM are also illuminated
Display shows: "PASSED" when the erase function is completed. "ERROR" if DC ERASE fails.
switch power off.

FAULTFINDING GUIDE


NO DISC
POWER ON
DISC DETECTION STARTS?
NO
YES
DISPLAY?
NO
YES
DISPLAY SHOWS *"NO DISC"*?
NO
YES
PRESS OPEN/CLOSE
TRAY?
NO
YES
LOAD DISC
PRESS OPEN/CLOSE
CDDA DISC LOADED?
NO
YES
CD-R DISC LOADED?
NO
YES
CD-RW DISC LOADED?
YES
SEE CDDA DISC FAULTFINDING
SEE CD-R DISC FAULTFINDING
SEE CD-RW DISC FAULTFINDING

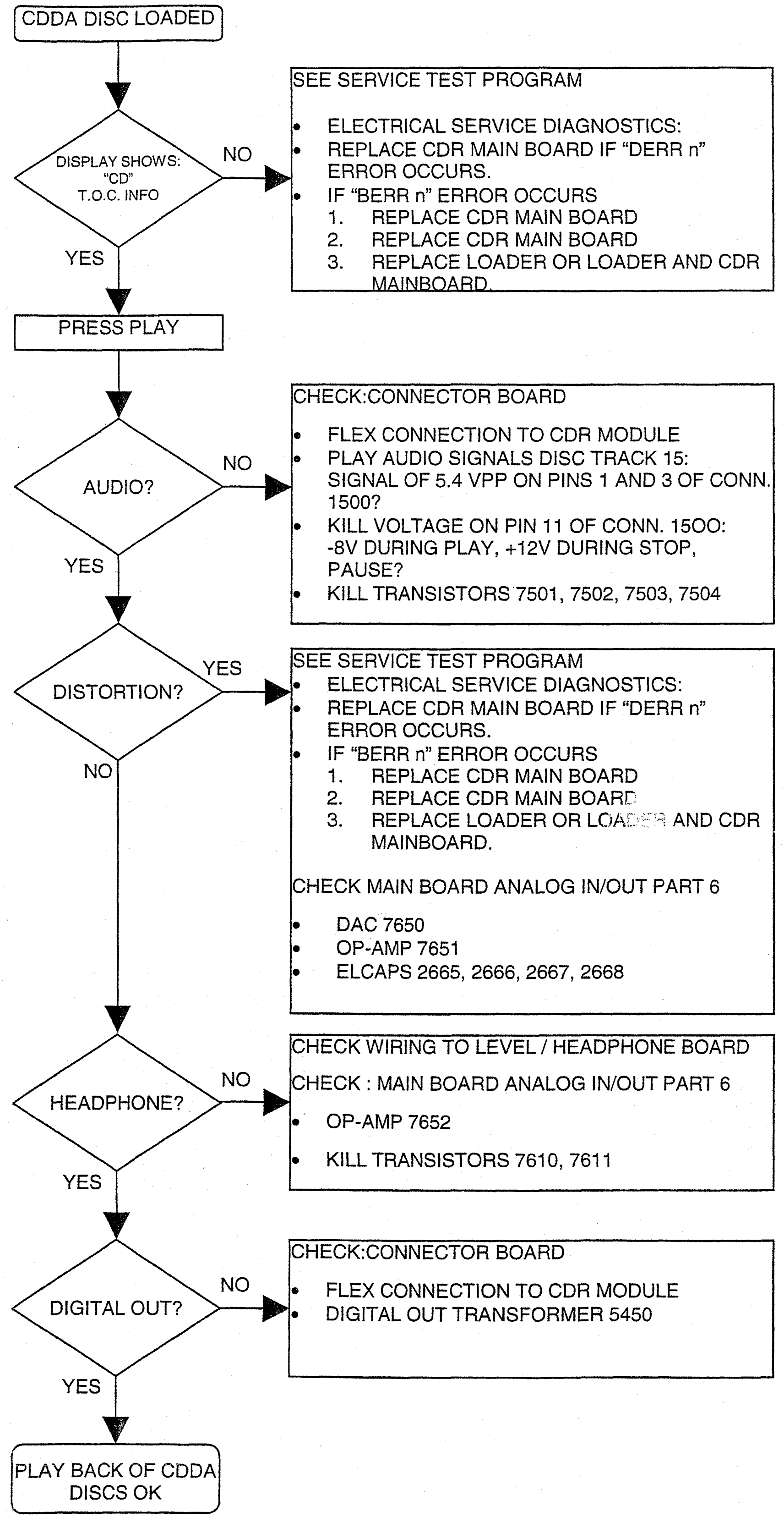
CHECK:
- POWER SUPPLY
  - ⇒ MAINS SWITCH 1295
  - ⇒ FUSES
  - ⇒ VOLTAGES AC, DC, FTD
  - ⇒ WIRING
- DISPLAY
  - ⇒ POWER SUPPLY VOLTAGES
  - ⇒ CLOCK FREQUENCY 8MHz
  - ⇒ CONTROL LINES
  - ⇒ WIRING
  - ⇒ ELECTRICAL SERVICE DIAGNOSTICS: DISPLAY TEST
  - ⇒ SEE MEASUREMENTS DISPLAY

DISPLAY SHOWS BLINKING *"SERVICE"*
- CHECK POWER SUPPLY VOLTAGES

SEE SERVICE TEST PROGRAM
- ELECTRICAL SERVICE DIAGNOSTICS:
- REPLACE CDR MAIN BOARD IF "DERR n" ERROR OCCURS.
- IF "BERR n" ERROR OCCURS
  1. REPLACE CDR MAIN BOARD
  2. REPLACE CDR MAIN BOARD
  3. REPLACE LOADER OR LOADER AND CDR MAINBOARD.

CHECK:
- ELECTRICAL SERVICE DIAGNOSTICS: KEYBOARD TEST: CHECK OPEN/CLOSE SWITCH ON DISPLAY BOARD.
- MECHANICAL SERVICE DIAGNOSTICS: REPLACE LOADER IF ERROR OCCURS

CDDA DISC FAULTFINDING GUIDE


CDDA DISC LOADED
DISPLAY SHOWS: "CD" T.O.C. INFO
NO
YES
PRESS PLAY
AUDIO?
NO
YES
DISTORTION?
YES
NO
HEADPHONE?
NO
YES
DIGITAL OUT?
NO
YES
PLAY BACK OF CDDA DISCS OK

SEE SERVICE TEST PROGRAM
- ELECTRICAL SERVICE DIAGNOSTICS:
- REPLACE CDR MAIN BOARD IF "DERR n" ERROR OCCURS.
- IF "BERR n" ERROR OCCURS
  1. REPLACE CDR MAIN BOARD
  2. REPLACE CDR MAIN BOARD
  3. REPLACE LOADER OR LOADER AND CDR MAINBOARD.

CHECK:CONNECTOR BOARD
- FLEX CONNECTION TO CDR MODULE
- PLAY AUDIO SIGNALS DISC TRACK 15: SIGNAL OF 5.4 VPP ON PINS 1 AND 3 OF CONN. 1500?
- KILL VOLTAGE ON PIN 11 OF CONN. 15OO: -8V DURING PLAY, +12V DURING STOP, PAUSE?
- KILL TRANSISTORS 7501, 7502, 7503, 7504

SEE SERVICE TEST PROGRAM
- ELECTRICAL SERVICE DIAGNOSTICS:
- REPLACE CDR MAIN BOARD IF "DERR n" ERROR OCCURS.
- IF "BERR n" ERROR OCCURS
  1. REPLACE CDR MAIN BOARD
  2. REPLACE CDR MAIN BOARD
  3. REPLACE LOADER OR LOADER AND CDR MAINBOARD.

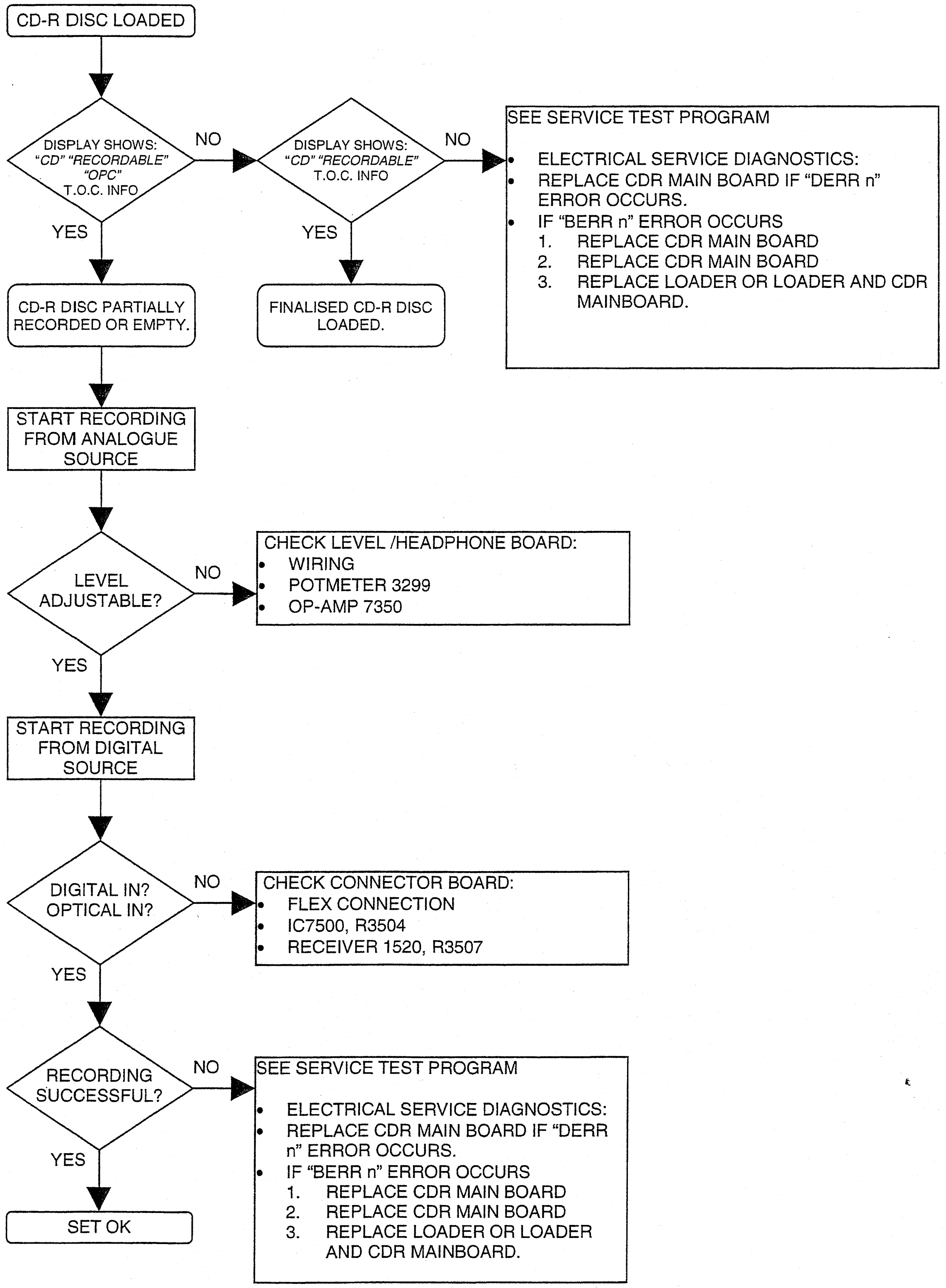
CHECK MAIN BOARD ANALOG IN/OUT PART 6
- DAC 7650
- OP-AMP 7651
- ELCAPS 2665, 2666, 2667, 2668

CHECK WIRING TO LEVEL / HEADPHONE BOARD

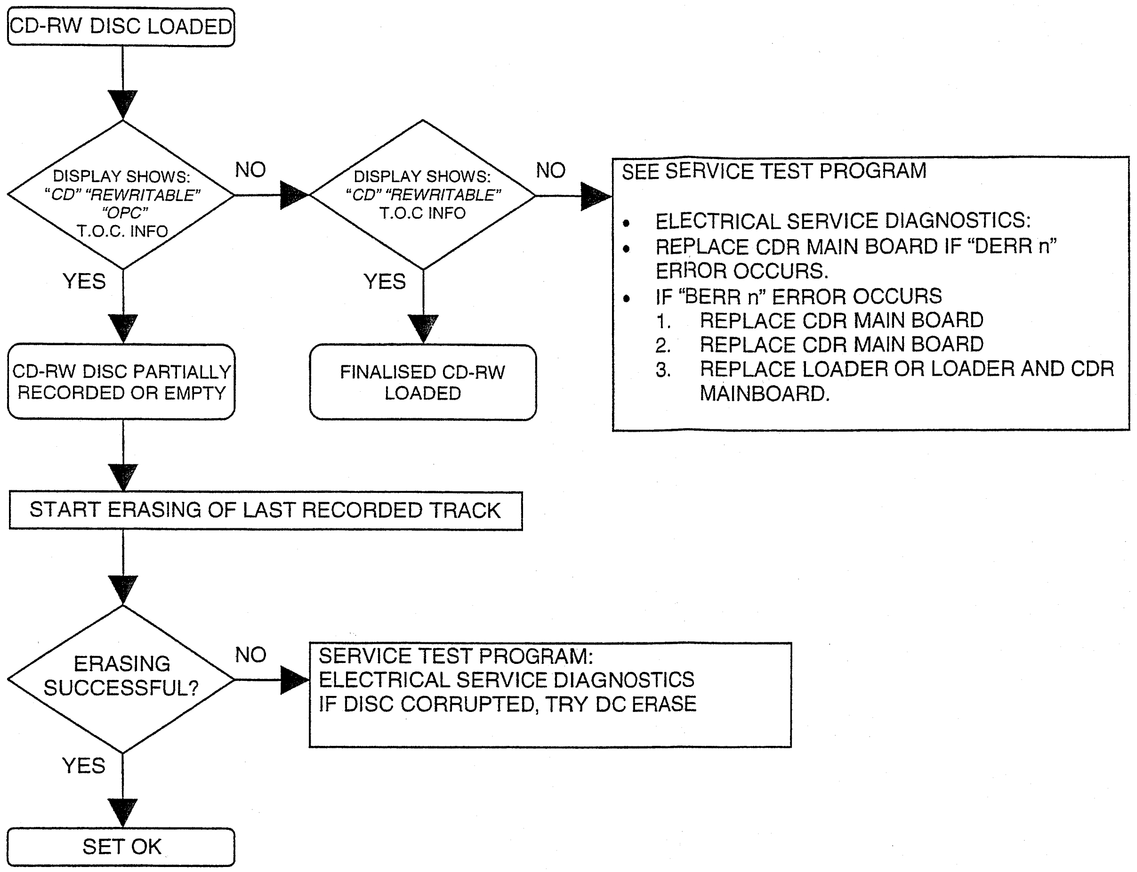
CHECK : MAIN BOARD ANALOG IN/OUT PART 6
- OP-AMP 7652
- KILL TRANSISTORS 7610, 7611

CHECK:CONNECTOR BOARD
- FLEX CONNECTION TO CDR MODULE
- DIGITAL OUT TRANSFORMER 5450

CD-R DISC FAULTFINDING


CD-R DISC LOADED
DISPLAY SHOWS: "CD" "RECORDABLE" "OPC" T.O.C. INFO
NO
DISPLAY SHOWS: "CD" "RECORDABLE" T.O.C. INFO
NO
SEE SERVICE TEST PROGRAM
• ELECTRICAL SERVICE DIAGNOSTICS:
• REPLACE CDR MAIN BOARD IF "DERR n" ERROR OCCURS.
• IF "BERR n" ERROR OCCURS
1. REPLACE CDR MAIN BOARD
2. REPLACE CDR MAIN BOARD
3. REPLACE LOADER OR LOADER AND CDR MAINBOARD.
YES
YES
CD-R DISC PARTIALLY RECORDED OR EMPTY.
FINALISED CD-R DISC LOADED.
START RECORDING FROM ANALOGUE SOURCE
LEVEL ADJUSTABLE?
NO
CHECK LEVEL /HEADPHONE BOARD:
• WIRING
• POTMETER 3299
• OP-AMP 7350
YES
START RECORDING FROM DIGITAL SOURCE
DIGITAL IN? OPTICAL IN?
NO
CHECK CONNECTOR BOARD:
• FLEX CONNECTION
• IC7500, R3504
• RECEIVER 1520, R3507
YES
RECORDING SUCCESSFUL?
NO
SEE SERVICE TEST PROGRAM
• ELECTRICAL SERVICE DIAGNOSTICS:
• REPLACE CDR MAIN BOARD IF "DERR n" ERROR OCCURS.
• IF "BERR n" ERROR OCCURS
1. REPLACE CDR MAIN BOARD
2. REPLACE CDR MAIN BOARD
3. REPLACE LOADER OR LOADER AND CDR MAINBOARD.
YES
SET OK

CD-RW DISC FAULTFINDING


CD-RW DISC LOADED
DISPLAY SHOWS: "CD" "REWRITABLE" "OPC" T.O.C. INFO
NO
DISPLAY SHOWS: "CD" "REWRITABLE" T.O.C INFO
NO
SEE SERVICE TEST PROGRAM
• ELECTRICAL SERVICE DIAGNOSTICS:
• REPLACE CDR MAIN BOARD IF "DERR n" ERROR OCCURS.
• IF "BERR n" ERROR OCCURS
1. REPLACE CDR MAIN BOARD
2. REPLACE CDR MAIN BOARD
3. REPLACE LOADER OR LOADER AND CDR MAINBOARD.
YES
YES
CD-RW DISC PARTIALLY RECORDED OR EMPTY
FINALISED CD-RW LOADED
START ERASING OF LAST RECORDED TRACK
ERASING SUCCESSFUL?
NO
SERVICE TEST PROGRAM: ELECTRICAL SERVICE DIAGNOSTICS IF DISC CORRUPTED, TRY DC ERASE
YES
SET OK

MEASUREMENTS DISPLAY PANEL

1. Measurement of voltage supplies.

Several voltages arrive at the display PCB.

Measurements and limits.

Voltage	Nominal value	Limits
VFTD	-26V	±5%
VDC1-DC2	3.5V	±10%
Vb	5V	±5%

2. Measurement of oscillator.

As clock driver for the display controller a resonator of 8Mhz is used.
The clock frequency is available at pin 8 of the display controller.
Check the frequency of 8Mhz ±5%.

3. Checking the control lines.

There are several lines which are inputs to the display controller and others which are outputs, these lines have to be checked to guarantee basic functionality.

RESETN:

This line should be kept low during power up for at least 3 machine cycles,with supply voltage within the operating range and oscillation stable.1 machine cycle = 12 X 1/Fc (8Mhz) Sec.

SDA and SCL:

The level on these two lines must be checked. When there is no communication they should have the ‘High’ level.

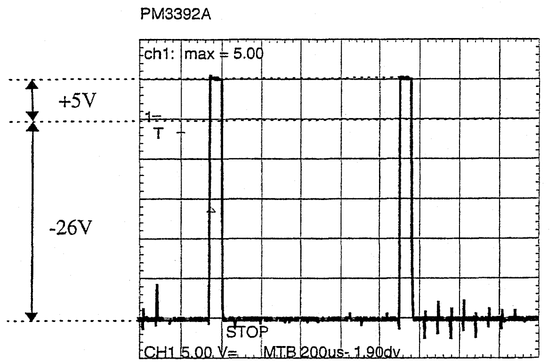
INTERRUPT:

The interrupt line is an output for the display controller. Check if this level is high after reset, no key pressed and no RC5 coming in.
Low pulses will be present when a key is pressed or when receiving RC5 commands from remote control.

Key matrix lines:

Check if at I/O port 4 of the controller all pins are high.(No keys pressed).(Pin 26 to 33). If not check respective pull-up resistors.

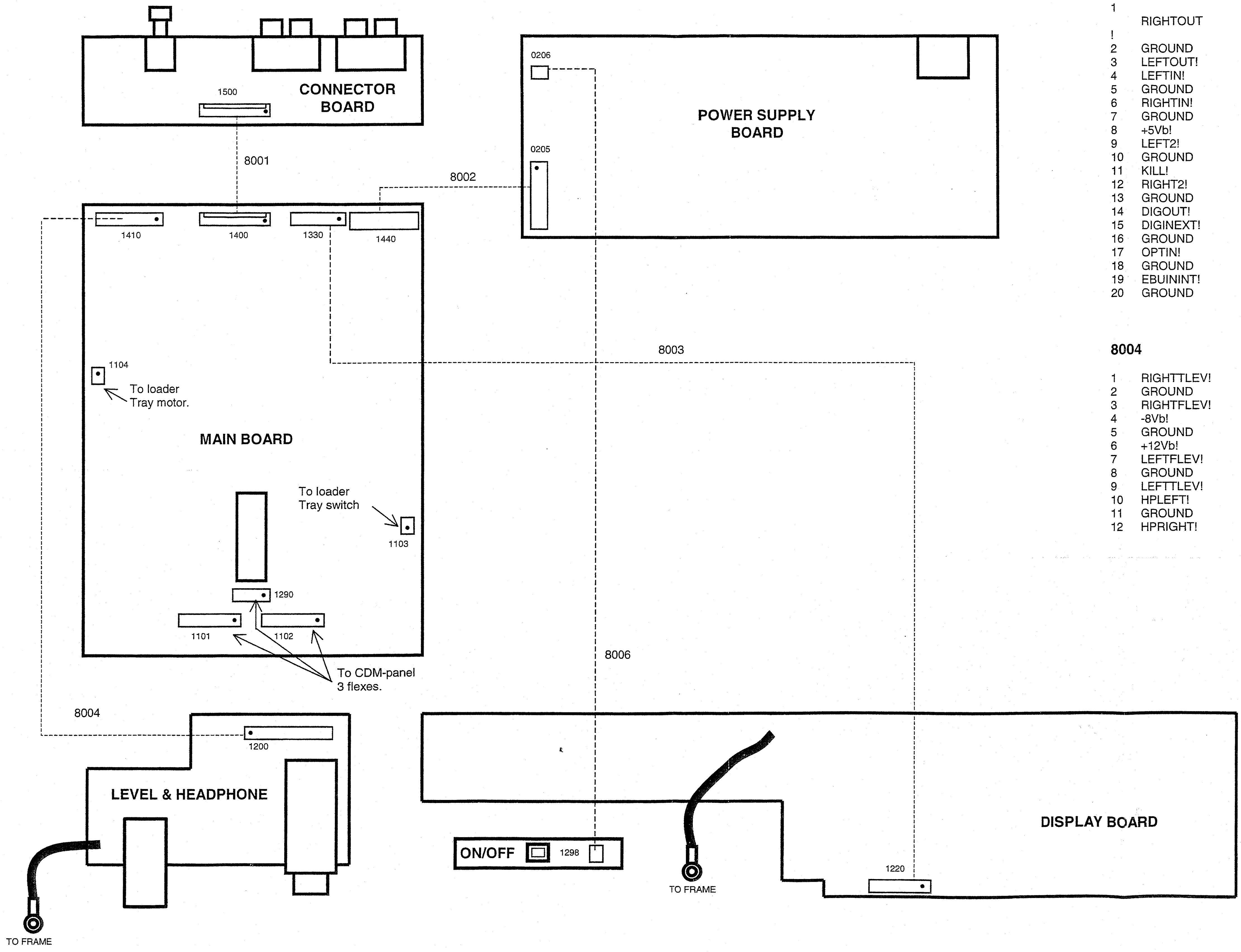
4. Operation of grid and segment control lines.



This figure shows the signal generated by the display processor on one of the grid lines. The level on the grid line changes from -26V to +5V.

The grid lines are scanned successively about every 950 μsec.

WIRING DIAGRAM CDR760


CONNECTOR BOARD
1500
8001
0206
0205
POWER SUPPLY BOARD
8002
1410
1400
1330
1440
1104
To loader Tray motor.
MAIN BOARD
To loader Tray switch
1103
1290
1101
1102
To CDM-panel 3 flexes.
8003
8006
8004
1200
LEVEL & HEADPHONE
TO FRAME
ON/OFF
1298
TO FRAME
DISPLAY BOARD
1220

Pin 1 indicated by • All Wires are 1/1.

8001

1	RIGHTOUT !
2	GROUND
3	LEFTOUT!
4	LEFTIN!
5	GROUND
6	RIGHTIN!
7	GROUND
8	+5Vb!
9	LEFT2!
10	GROUND
11	KILL!
12	RIGHT2!
13	GROUND
14	DIGOUT!
15	DIGINEXT!
16	GROUND
17	OPTIN!
18	GROUND
19	EBUININT!
20	GROUND

8002

1	+5Vb!
2	+5VM!
3	+5Vb!
4	GROUND
5	GROUND
6	VDC2!
7	VFTD!
8	GROUND
9	+12V!
10	-8V!
11	VDC1!

8003

1	SDA!
2	SCL!
3	RSTLA!
4	GROUND
5	INTSLAVE!
6	VDC1!
7	VFTD!
8	VDC2!
9	+5Vb!
10	GROUND

8004

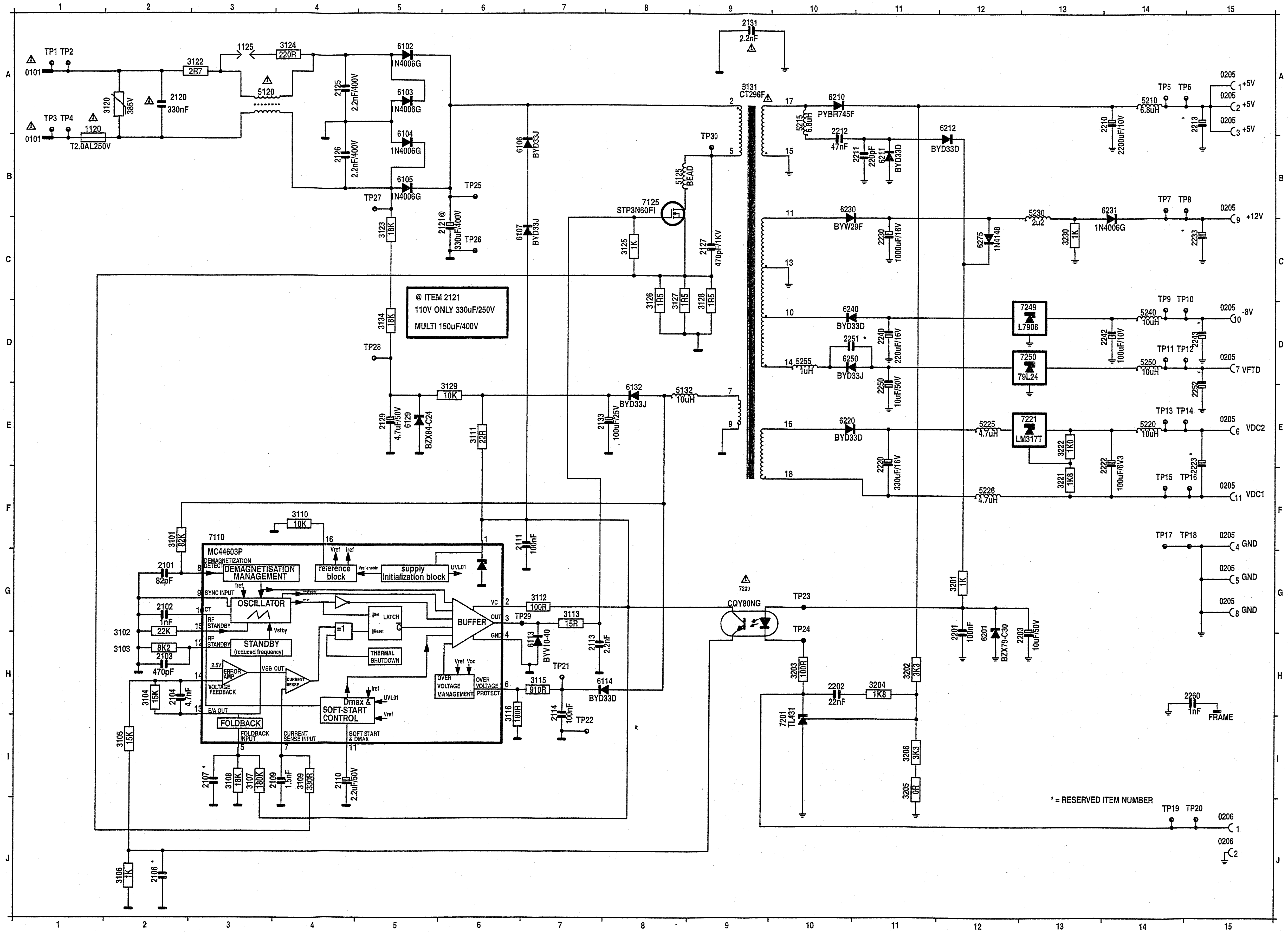
1	RIGHTTLEV!
2	GROUND
3	RIGHTFLEV!
4	-8Vb!
5	GROUND
6	+12Vb!
7	LEFTFLEV!
8	GROUND
9	LEFTTLEV!
10	HPLEFT!
11	GROUND
12	HPRIGHT!

8006

1	ON!
2	OFF!

HAS1188
9820

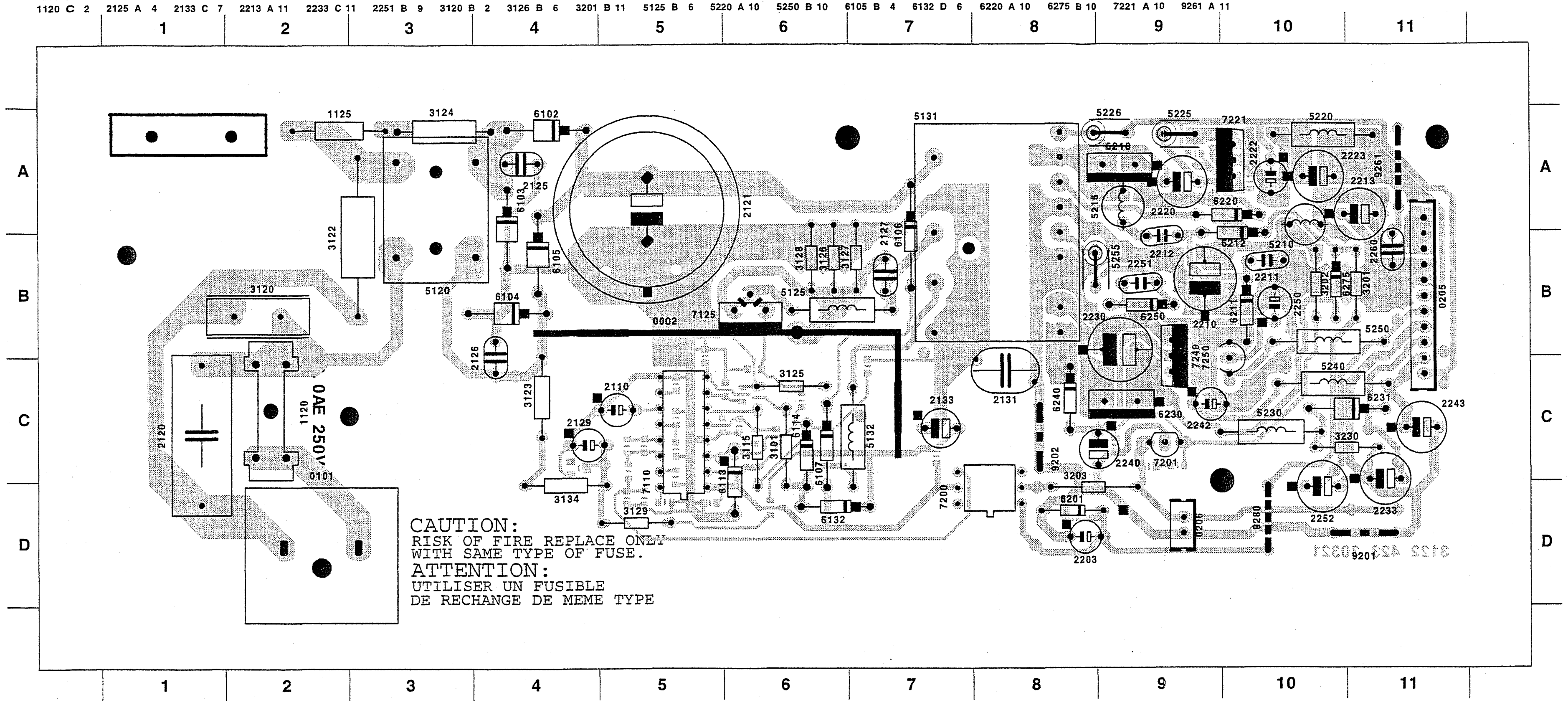
POWER SUPPLY UNIT CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
TP1 TP2
0101
TP3 TP4
1120
T2.0AL250V
3120
385V
3122
2R7
2120
330nF
1125
3124
220R
5120
6102
1N4006G
6103
1N4006G
6104
1N4006G
6105
1N4006G
2125
2.2nF/400V
2126
2.2nF/400V
TP25
TP26
TP27
2121@
330uF/400V
3123
18K
6106
BYD33J
6107
BYD33J
@ ITEM 2121
110V ONLY 330uF/250V
MULTI 150uF/400V
3134
18K
TP28
3129
10K
2129
4.7uF/50V
6129
BZX84-C24
3111
22R
2133
100uF/25V
6132
BYD33J
5132
10uH
7125
STP3N60FI
3125
1K
5125
BEAD
TP30
2127
470pF/1KV
3126
1R5
3127
1R5
3128
1R5
2131
2.2nF
5131
CT296F
17
15
11
13
10
14
16
18
2
5
7
9
6210
PYBR745F
5215
6.8uH
2212
47nF
2211
220pF
6211
BYD33D
6212
BYD33D
6230
BYW29F
2230
1000uF/16V
6275
1N4148
5230
2u2
3230
1K
6231
1N4006G
6240
BYD33D
2240
220uF/16V
2251 *
6250
BYD33J
5255
1uH
2250
10uF/50V
6220
BYD33D
2220
330uF/16V
5225
4.7uH
5226
4.7uH
7249
L7908
7250
79L24
7221
LM317T
3222
1K0
3221
1K6
2210
2200uF/10V
5210
6.8uH
2213
2233
2242
100uF/10V
5240
10uH
2243
5250
10uH
2252
2222
100uF/6V3
5220
10uH
2223
TP5 TP6
TP7 TP8
TP9 TP10
TP11 TP12
TP13 TP14
TP15 TP16
TP17 TP18
TP19 TP20
0205
1 +5V
2 +5V
3 +5V
9 +12V
10 -8V
7 VFTD
6 VDC2
11 VDC1
4 GND
5 GND
8 GND
0206
1
2
2260
1nF
FRAME
* = RESERVED ITEM NUMBER
7110
MC44603P
3101
82K
2101
82pF
2102
1nF
22K
8K2
2103
470pF
3102
3103
3104
15K
2104
4.7nF
3105
15K
3106
1K
2106 *
3110
10K
16
Vref
Iref
DEMAGNETIZATION DETECT
DEMAGNETISATION MANAGEMENT
reference block
Vref enable
supply initialization block
UVLO1
SYNC INPUT
OSCILLATOR
CT
RF STANDBY
RP STANDBY
STANDBY (reduced frequency)
Vstby
LATCH
THERMAL SHUTDOWN
BUFFER
VC
OUT
GND
2.5V
ERROR AMP
VOLTAGE FEEDBACK
VSB OUT
CURRENT SENSE
E/A OUT
FOLDBACK
FOLDBACK INPUT
CURRENT SENSE INPUT
Dmax & SOFT-START CONTROL
SOFT START & DMAX
OVER VOLTAGE MANAGEMENT
OVER VOLTAGE PROTECT
2107 *
3108
18K
3107
180K
2109
1.5nF
3109
330R
2110
2.2uF/50V
2111
100nF
3112
100R
3113
15R
TP29
6113
BYV10-40
2113
2.2nF
TP21
3115
910R
6114
BYD33D
3116
180R
2114
100nF
TP22
7200
CQY80NG
TP23
TP24
3203
100R
2202
22nF
3204
1K8
7201
TL431
3202
3K3
3206
3K3
3205
0R
3201
1K
2201
100nF
6201
BZX79-C30
2203
10uF/50V

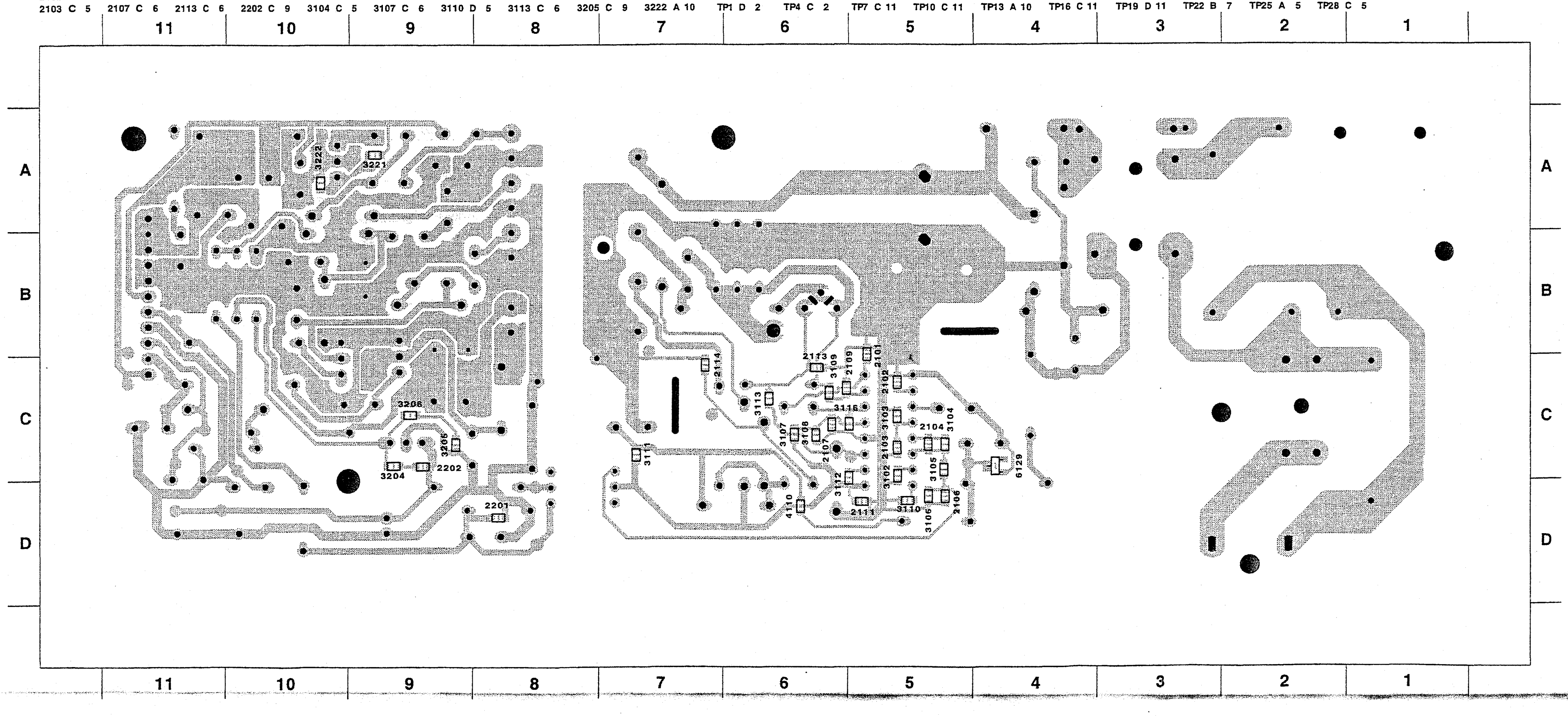
0101	A 1
0101	B 1
0205	A15
0205	A15
0205	A15
0205	F15
0205	G15
0205	E15
0205	D15
0205	G15
0205	B15
0205	D15
0205	F15
0206	J15
0206	J15
1120	A 1
1125	A 3
2101	G 2
2102	G 2
2103	H 2
2104	H 2
2106	J 2
2107	I 3
2109	I 4
2110	I 4
2111	F 6
2113	H 7
2114	H 7
2120	A 2
2121	C 6
2125	A 4
2126	B 4
2127	C 9
2129	E 5
2131	A 9
2133	E 7
2201	G12
2202	H10
2203	G13
2210	A14
2211	B11
2212	A10
2213	A15
2220	E11
2222	E14
2223	E15
2230	C11
2233	C15
2240	D11
2242	D14
2243	D15
2250	D11
2251	D10
2252	E15
2260	H15
3101	F 2
3102	H 2
3103	H 2
3104	H 2
3105	I 2
3106	J 2
3107	I 3
3108	I 3
3109	I 4
3110	F 4
3111	E 6
3112	G 7
3113	G 7
3115	H 7
3116	H 6
3120	A 2
3122	A 3
3123	C 5
3124	A 4
3125	C 8
3126	C 8
3127	C 8
3128	C 9
3129	E 6
3134	D 5
3201	G12
3202	H11
3203	H10
3204	H11
3205	I11
3206	I11
3221	F13
3222	E13
3230	C13
5120	A 3
5125	B 8
5131	A 9
5132	E 8
5210	A14
5215	A10
5220	E14
5225	E12
5226	F12
5230	B13
5240	D14
5250	D14
5255	D10
6102	A 5
6103	A 5
6104	B 5
6105	B 5
6106	B 6
6107	C 6
6113	H 7
6114	H 8
6129	E 5
6132	E 8
6201	G12
6210	A10
6211	B11
6212	A12
6220	E10
6230	B10
6231	B14
6240	D10
6250	D10
6275	C12
7110	F 3
7125	B 8
7200	G 9
7201	I10
7221	E13
7249	D13
7250	D13

POWER SUPPLY UNIT BOARD

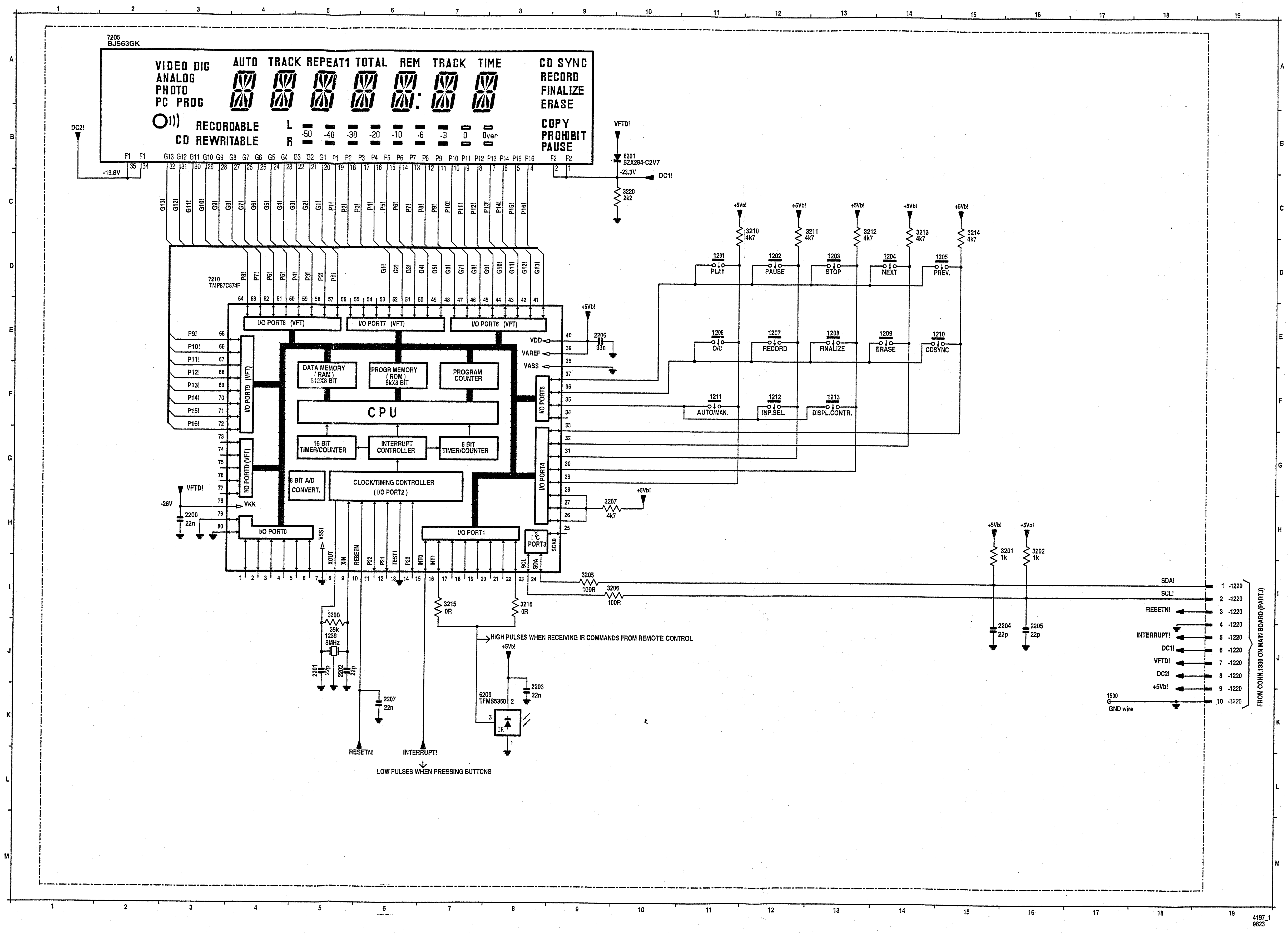
0002 B 6	1125 A 2	2126 B 4	2203 D 8	2220 A 9	2240 C 9	2252 D 10	3122 B 3	3127 B 7	3202 B 10	5131 B 8	5225 A 9	5255 B 8	6106 B 7	6201 D 8	6230 C 9	7110 C 5	7249 C 9	9280 D 10
0101 D 2	2110 C 5	2127 B 7	2210 B 9	2222 A 10	2242 C 9	2260 B 11	3123 C 4	3128 B 6	3203 D 8	5132 C 7	5226 A 9	6102 A 4	6107 C 6	6210 A 9	6231 C 10	7125 B 6	7250 C 10	
0205 B 11	2120 C 1	2129 C 4	2211 B 10	2223 A 10	2243 C 11	3101 C 6	3124 A 3	3129 D 5	3230 C 10	5210 A 10	5230 C 10	6103 A 4	6113 D 6	6211 B 10	6240 C 8	7200 D 8	9201 D 11	
0206 D 11	2121 A 5	2131 C 8	2212 B 9	2230 B 9	2250 B 10	3115 C 6	3125 C 6	3134 D 4	5120 A 3	5215 A 9	5240 C 10	6104 B 4	6114 C 6	6212 B 10	6250 B 9	7201 C 9	9202 C 8	
1120 C 2	2125 A 4	2133 C 7	2213 A 11	2233 C 11	2251 B 9	3120 B 2	3126 B 6	3201 B 11	5125 B 6	5220 A 10	5250 B 10	6105 B 4	6132 D 6	6220 A 10	6275 B 10	7221 A 10	9261 A 11	


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
0AE 250V
CAUTION:
RISK OF FIRE REPLACE ONLY
WITH SAME TYPE OF FUSE.
ATTENTION:
UTILISER UN FUSIBLE
DE RECHANGE DE MEME TYPE

2101 B 5	2104 C 5	2109 C 6	2114 C 7	3102 C 5	3105 C 5	3108 C 6	3111 C 7	3116 C 5	3206 C 9	4110 D 6	TP2 D 2	TP5 B 11	TP8 C 11	TP11 C 10	TP14 A 11	TP17 B 11	TP20 D 11	TP23 D 8	TP26 B 5	TP29 C 5
2102 C 5	2106 D 5	2111 D 5	2201 D 8	3103 C 5	3106 D 5	3109 C 6	3112 C 5	3204 C 9	3221 A 9	6129 C 4	TP3 D 3	TP6 A 11	TP9 C 11	TP12 B 11	TP15 B 11	TP18 B 11	TP21 C 7	TP24 D 8	TP27 C 4	TP30 B 7
2103 C 5	2107 C 6	2113 C 6	2202 C 9	3104 C 5	3107 C 6	3110 D 5	3113 C 6	3205 C 9	3222 A 10	TP1 D 2	TP4 C 2	TP7 C 11	TP10 C 11	TP13 A 10	TP16 C 11	TP19 D 11	TP22 B 7	TP25 A 5	TP28 C 5	


11
10
9
8
7
6
5
4
3
2
1
A
B
C
D

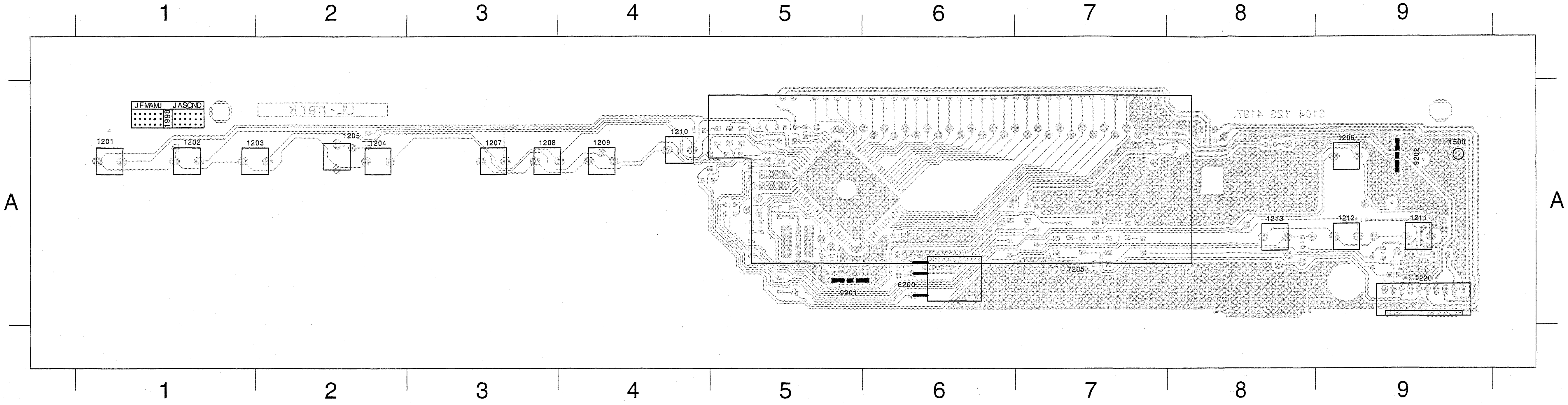
DISPLAY CIRCUIT DIAGRAM


7205
BJ563GK
VIDEO DIG
ANALOG
PHOTO
PC PROG
AUTO TRACK REPEAT1 TOTAL REM TRACK TIME
CD SYNC
RECORD
FINALIZE
ERASE
RECORDABLE
CD REWRITABLE
L
R
-50 -40 -30 -20 -10 -6 -3 0 Over
COPY
PROHIBIT
PAUSE
F1 F1 G13 G12 G11 G10 G9 G8 G7 G6 G5 G4 G3 G2 G1 P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 F2 F2
DC2!
-19.8V
VFTD!
6201
BZX284-C2V7
-23.3V
DC1!
3220
2k2
7210
TMP87C874F
I/O PORT8 (VFT)
I/O PORT7 (VFT)
I/O PORT6 (VFT)
I/O PORT9 (VFT)
I/O PORTO (VFT)
I/O PORT5
I/O PORT4
I/O PORT0
I/O PORT1
PORT3
DATA MEMORY (RAM) 512X8 BIT
PROGR MEMORY (ROM) 8KX8 BIT
PROGRAM COUNTER
CPU
16 BIT TIMER/COUNTER
INTERRUPT CONTROLLER
8 BIT TIMER/COUNTER
8 BIT A/D CONVERT.
CLOCK/TIMING CONTROLLER (I/O PORT2)
VDD
VAREF
VASS
VKK
VSS1
XOUT XIN RESETN P22 P21 TEST1 P20 INT0 INT1 SCL SDA SCK0
P9! P10! P11! P12! P13! P14! P15! P16!
-26V
2200
22n
+5Vb!
2206
33n
3207
4k7
3210 4k7
3211 4k7
3212 4k7
3213 4k7
3214 4k7
1201 PLAY
1202 PAUSE
1203 STOP
1204 NEXT
1205 PREV.
1206 O/C
1207 RECORD
1208 FINALIZE
1209 ERASE
1210 CDSYNC
1211 AUTO/MAN.
1212 INP.SEL.
1213 DISPL.CONTR.
3200
39k
1230
8MHz
2201 22p
2202 22p
2207 22n
3215 0R
3216 0R
HIGH PULSES WHEN RECEIVING IR COMMANDS FROM REMOTE CONTROL
6200
TFMS5360
2203 22n
RESETN!
INTERRUPT!
LOW PULSES WHEN PRESSING BUTTONS
3205 100R
3206 100R
3201 1k
3202 1k
2204 22p
2205 22p
SDA!
SCL!
RESETN!
INTERRUPT!
DC1!
VFTD!
DC2!
+5Vb!
1500
GND wire
1 -1220
2 -1220
3 -1220
4 -1220
5 -1220
6 -1220
7 -1220
8 -1220
9 -1220
10 -1220
FROM CONN.1330 ON MAIN BOARD (PART3)
4197_1
9823

1201	D11
1202	D12
1203	D13
1204	D14
1205	D15
1206	E11
1207	E12
1208	E13
1209	E14
1210	E14
1211	F11
1212	F12
1213	F13
1220	I19
1220	I19
1220	I19
1220	J19
1220	J19
1220	J19
1220	J19
1220	J19
1220	K19
1220	K19
1230	J 5
1500	K17
2200	H 3
2201	J 5
2202	J 5
2203	K 8
2204	J16
2205	J16
2206	E 9
2207	K 6
3200	I 5
3201	H16
3202	H16
3205	I 9
3206	I10
3207	H 9
3210	C12
3211	C13
3212	C13
3213	C14
3214	C15
3215	I 7
3216	I 8
3220	C10
6200	K 7
6201	B10
7205	A 2
7210	D 3

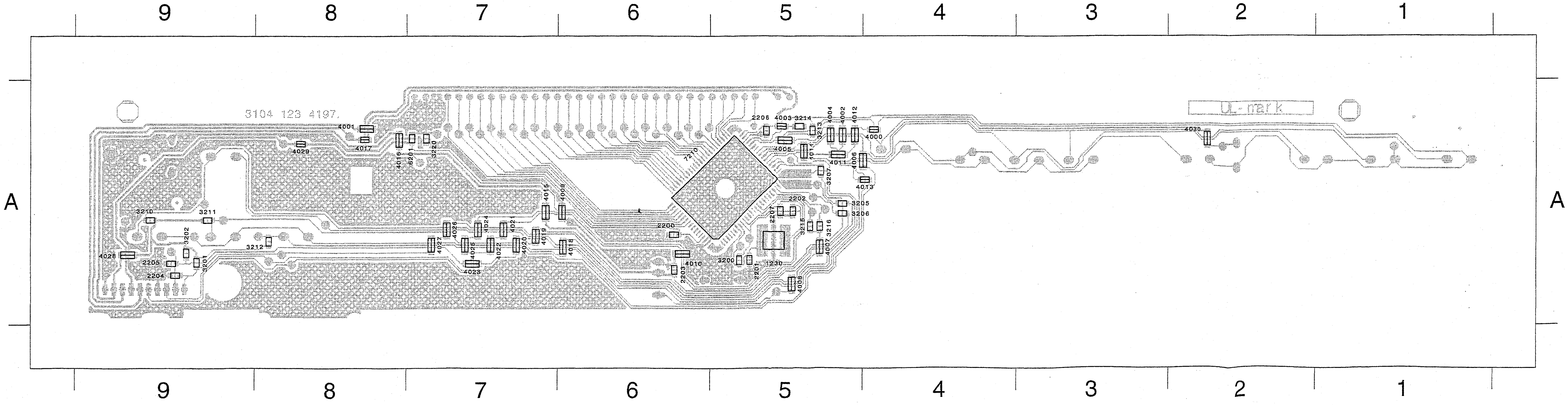
DISPLAY BOARD
TOP SIDE

1201	A 1
1202	A 1
1203	A 1
1204	A 2
1205	A 2
1206	A 9
1207	A 3
1208	A 3
1209	A 4
1210	A 4
1211	A 9
1212	A 9
1213	A 8
1220	A 9
1500	A 9
6200	A 6
7205	A 6
9201	A 5
9202	A 9

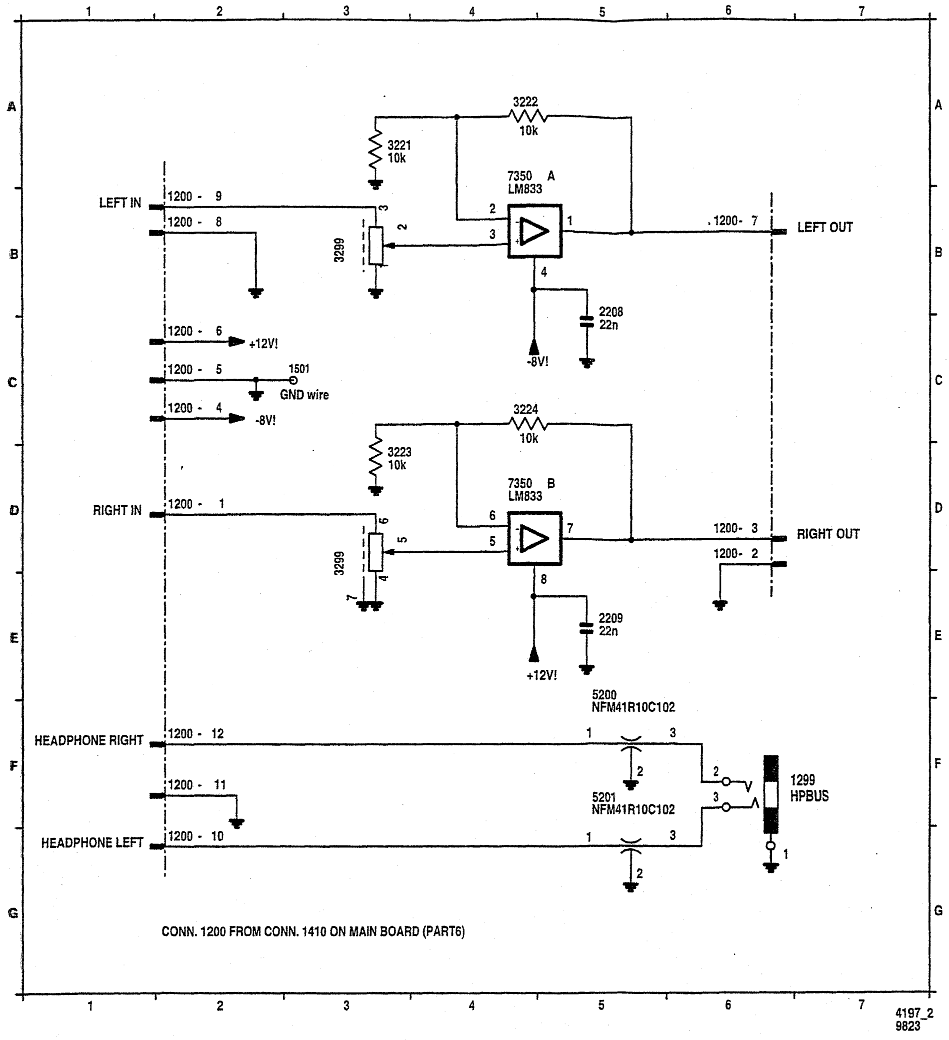

1
2
3
4
5
6
7
8
9
A
A
JFMAMJ JASOND
1998
UL-mark
3104 123 4197.
1201
1202
1203
1205
1204
1207
1208
1209
1210
1206
9202
1500
1213
1212
1211
1220
6200
9201
7205

BOTTOM SIDE

1230	A 5
2200	A 6
2201	A 5
2202	A 5
2203	A 6
2204	A 9
2205	A 9
2206	A 5
2207	A 5
3200	A 5
3201	A 9
3202	A 9
3205	A 5
3206	A 5
3207	A 5
3210	A 9
3211	A 9
3212	A 8
3213	A 5
3214	A 5
3215	A 5
3216	A 5
3220	A 7
4000	A 4
4001	A 8
4002	A 5
4003	A 5
4004	A 5
4005	A 5
4006	A 4
4007	A 5
4008	A 5
4009	A 6
4010	A 6
4011	A 5
4012	A 5
4013	A 4
4014	A 5
4015	A 7
4016	A 8
4017	A 8
4018	A 6
4019	A 7
4020	A 7
4021	A 7
4022	A 7
4023	A 7
4024	A 7
4025	A 7
4026	A 7
4027	A 7
4028	A 9
4029	A 8
4030	A 2
6201	A 7
7210	A 5


9
8
7
6
5
4
3
2
1
A
A
3104 123 4197.
UL-mark
4001
4029
4017
4016
6201
3220
7210
2206
4003
3214
4004
4002
4012
4000
4005
4011
4013
3207
3205
3206
2202
2201
3215
3216
4007
4009
1230
3200
2200
4010
2203
4015
4008
4019
4018
4020
4021
4022
4024
4025
4026
4027
4023
3210
3211
3202
3212
3201
4028
2205
2204
4030

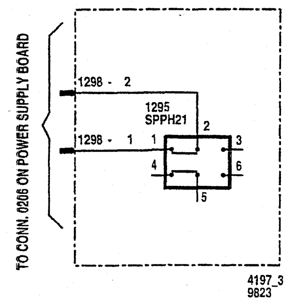
LEVEL AND HEADPHONE CIRCUIT DIAGRAM



3222
10k
3221
10k
7350 A
LM833
LEFT IN
1200 - 9
1200 - 8
3299
LEFT OUT
1200- 7
2208
22n
-8V!
1200 - 6
+12V!
1200 - 5
1501
GND wire
1200 - 4
-8V!
3224
10k
3223
10k
7350 B
LM833
RIGHT IN
1200 - 1
RIGHT OUT
1200- 3
1200- 2
2209
22n
+12V!
5200
NFM41R10C102
HEADPHONE RIGHT
1200 - 12
1200 - 11
5201
NFM41R10C102
1299
HPBUS
HEADPHONE LEFT
1200 - 10
CONN. 1200 FROM CONN. 1410 ON MAIN BOARD (PART6)
4197_2
9823

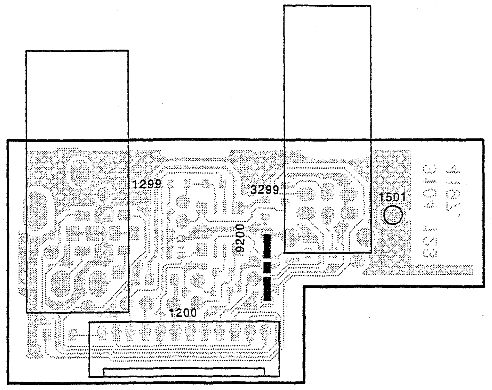
1200	D 2
1200	D 6
1200	D 6
1200	C 2
1200	C 2
1200	C 2
1200	B 6
1200	B 2
1200	B 2
1200	G 2
1200	F 2
1200	F 2
1299	F 6
1501	C 3
2208	B 5
2209	E 5
3221	A 3
3222	A 4
3223	D 3
3224	C 4
3299	B 3
3299	E 3
5200	E 5
5201	F 5
7350	A 4
7350	D 4

ON/OFF SWITCH BOARD



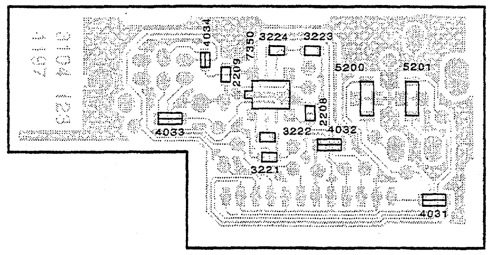
TO CONN. 0206 ON POWER SUPPLY BOARD
1298 - 2
1298 - 1
1295
SPPH21
4197_3
9823

LEVEL AND HEADPHONE BOARD TOPSIDE



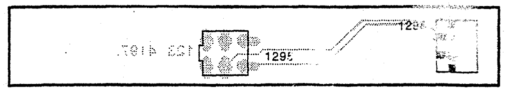
1299
3299
1501
9200
1200

BOTTOM SIDE



4034
2209
7350
3224
3223
5200
5201
2208
4033
3222
4032
3221
4031

ON/OFF SWITCH BOARD



CDR MAIN BOARD

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1. SERVO PART CIRCUIT DIAGRAM 12-3
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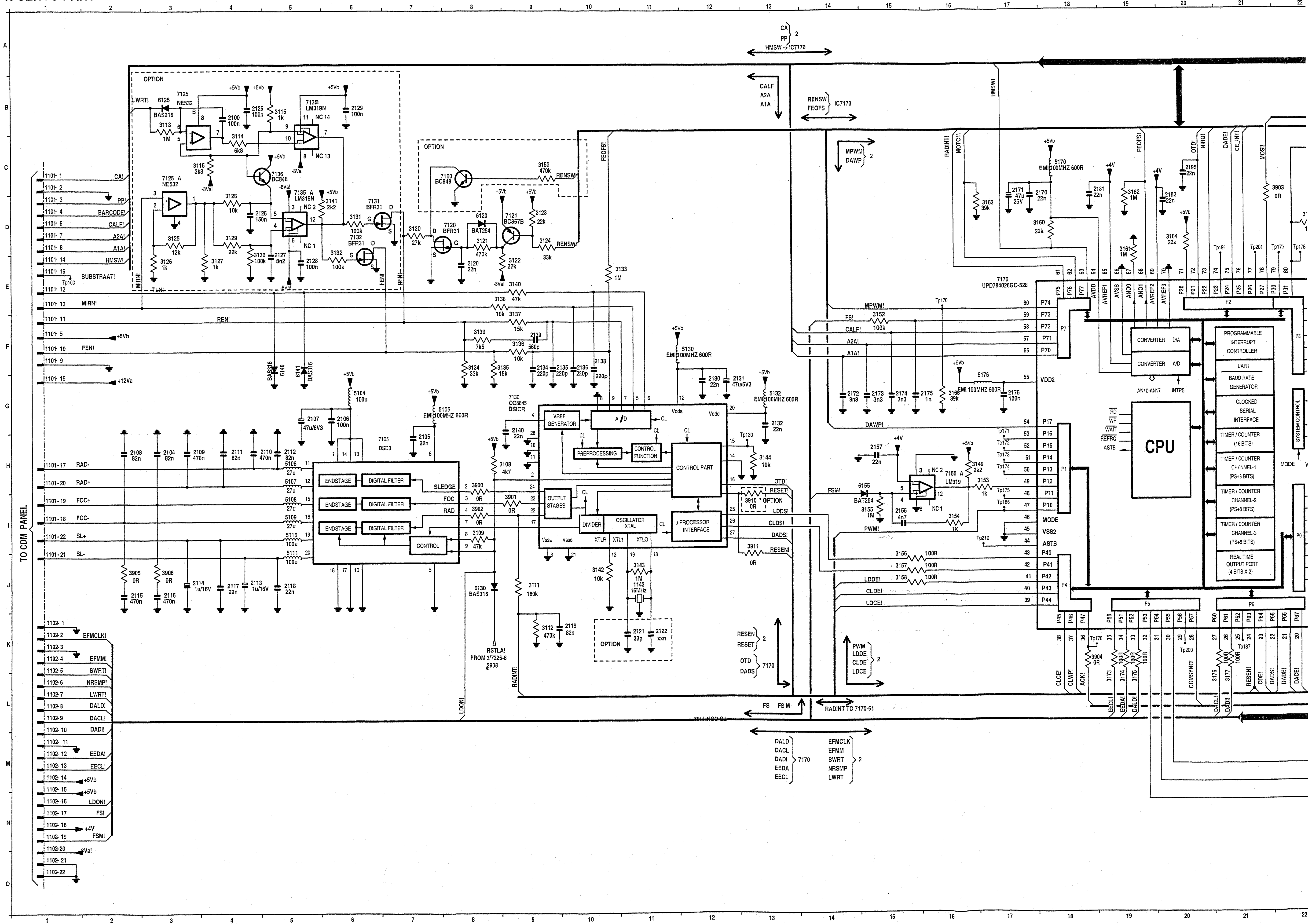
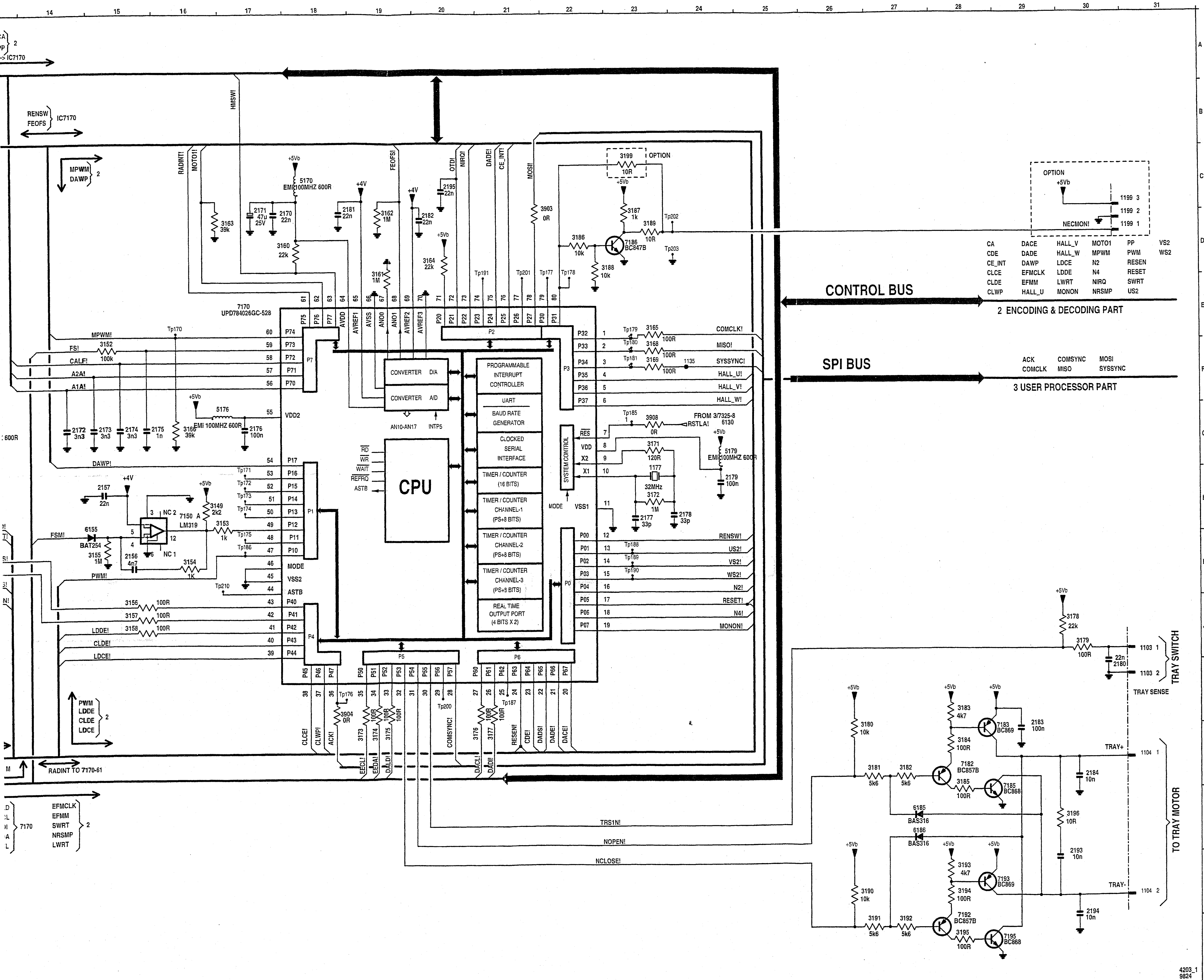
TECHNICIAN NOTES

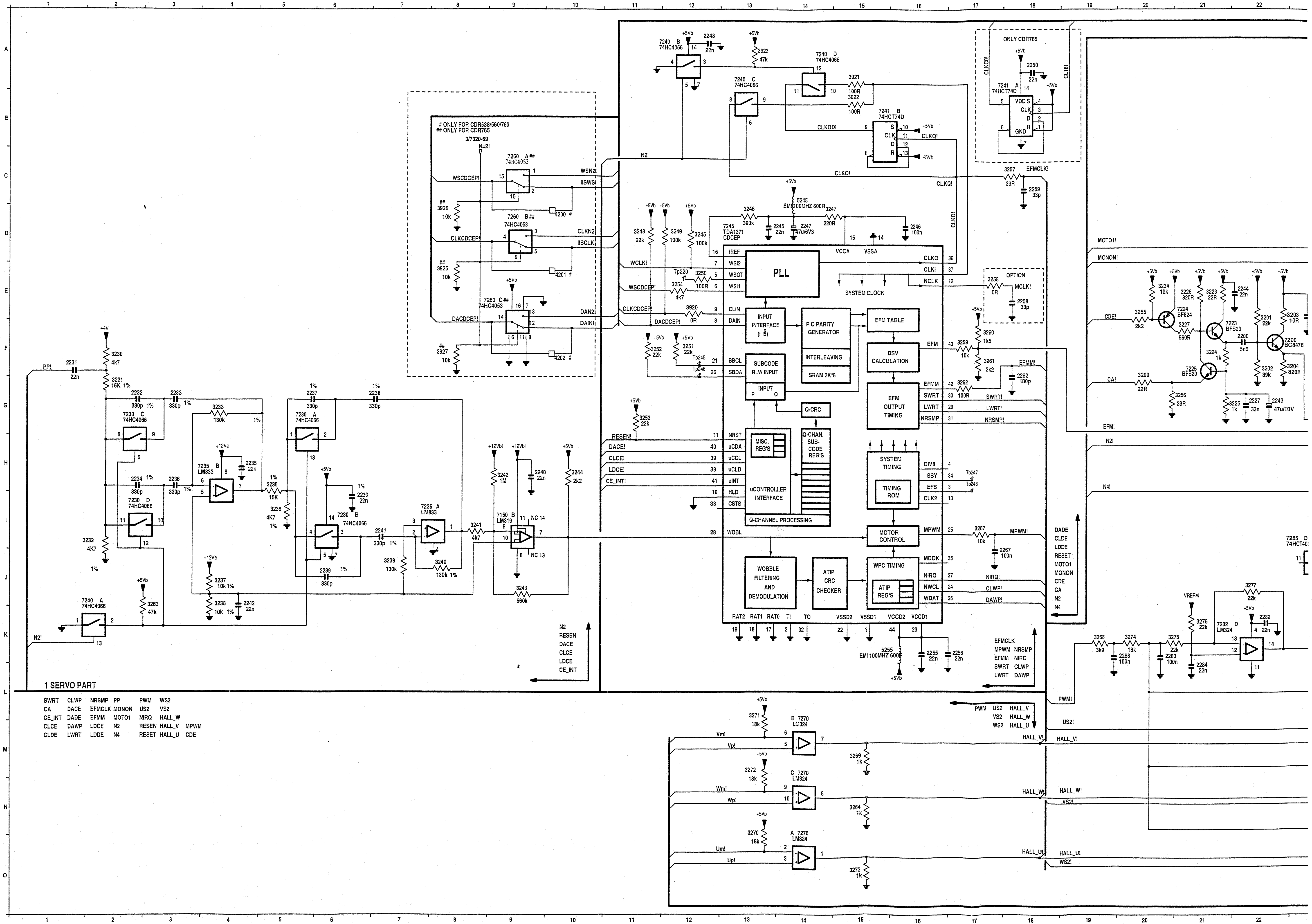
1. SERVO PART


TO CDM PANEL
OPTION
7125 NE532
713B LM319N
7136 BC848
7135 A LM319N
7131 BFR31
7132 BFR31
7160 BC848
7120 BFR31
7121 BC857B
6120 BAT254
6125 BAS216
1101- 1 CA!
1101- 2
1101- 3 PP!
1101- 4 BARCODE!
1101- 6 CALF!
1101- 7 A2A!
1101- 8 A1A!
1101- 14 HMSW!
1101- 16 SUBSTRAAT!
1101- 12
1101- 13 MIRN!
1101- 11 REN!
1101- 5 +5Vb
1101- 10 FEN!
1101- 9
1101- 15 +12Va
1101-17 RAD-
1101-20 RAD+
1101-19 FOC+
1101-18 FOC-
1101-22 SL+
1101-21 SL-
1102- 1
1102- 2 EFMCLK!
1102- 3
1102- 4 EFMM!
1102- 5 SWRT!
1102- 6 NRSMP!
1102- 7 LWRT!
1102- 8 DALD!
1102- 9 DACL!
1102- 10 DADI!
1102- 11
1102- 12 EEDA!
1102- 13 EECL!
1102- 14 +5Vb
1102- 15 +5Vb
1102- 16 LDON!
1102- 17 FS!
1102- 18 +4V
1102- 19 FSM!
1102- 20 -8Va!
1102- 21
1102- 22
7105 DSD3
ENDSTAGE
DIGITAL FILTER
CONTROL
SLEDGE
FOC
RAD
7130 OQ8845 DSICR
VREF GENERATOR
A/D
PREPROCESSING
CONTROL FUNCTION
CONTROL PART
OUTPUT STAGES
DIVIDER
OSCILLATOR XTAL
u PROCESSOR INTERFACE
1143 16MHz
RSTLA! FROM 3/7325-8 3908
OTD!
RESET!
LDDS!
CLDS!
DADS!
RESEN!
CA PP 2
HMSW -> IC7170
CALF A2A A1A
RENSW FEOFS IC7170
MPWM DAWP 2
RESEN RESET 2
OTD DADS 7170
PWM LDDE CLDE LDCE 2
FS FSM
RADINT TO 7170-61
DALD DACL DADI EEDA EECL 7170
EFMCLK EFMM SWRT NRSMP LWRT 2
7150 A LM319
6155 BAT254
7170 UPD784026GC-528
CPU
PROGRAMMABLE INTERRUPT CONTROLLER
UART
BAUD RATE GENERATOR
CLOCKED SERIAL INTERFACE
TIMER / COUNTER (16 BITS)
TIMER / COUNTER CHANNEL-1 (PS+8 BITS)
TIMER / COUNTER CHANNEL-2 (PS+8 BITS)
TIMER / COUNTER CHANNEL-3 (PS+8 BITS)
REAL TIME OUTPUT PORT (4 BITS X 2)
CONVERTER D/A
CONVERTER A/D
AN10-AN17
INTP5
RD WR WAIT REFRQ ASTB
VDD2 MODE VSS2 ASTB
P74 P73 P72 P71 P70 P17 P16 P15 P14 P13 P12 P11 P10 P40 P41 P42 P43 P44
SYSTEM CONTROL
MODE
5170 EMI 100MHZ 600R
5176 EMI 100MHZ 600R
5130 EMI 100MHZ 600R
5132 EMI 100MHZ 600R
5105 EMI 100MHZ 600R
RADINT! MDTO1! FEOFS! OTD! NIRQ! DADE! CE_INT! MOSI! HMSW!
MPWM! FS! CALF! A2A! A1A! DAWP! FSM! PWM! LDDE! CLDE! LDCE!
CLCE! CLWP! ACK! COMSYNC! RESEN! CDE! DADS! DACE!
EECL! EEDA! DALD! DACL! DADI!
LDON! RADINT! FEOFS! RENSW! MIRN! FEN! REN!
TO CON 1102
A B C D E F G H I J K L M N O
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

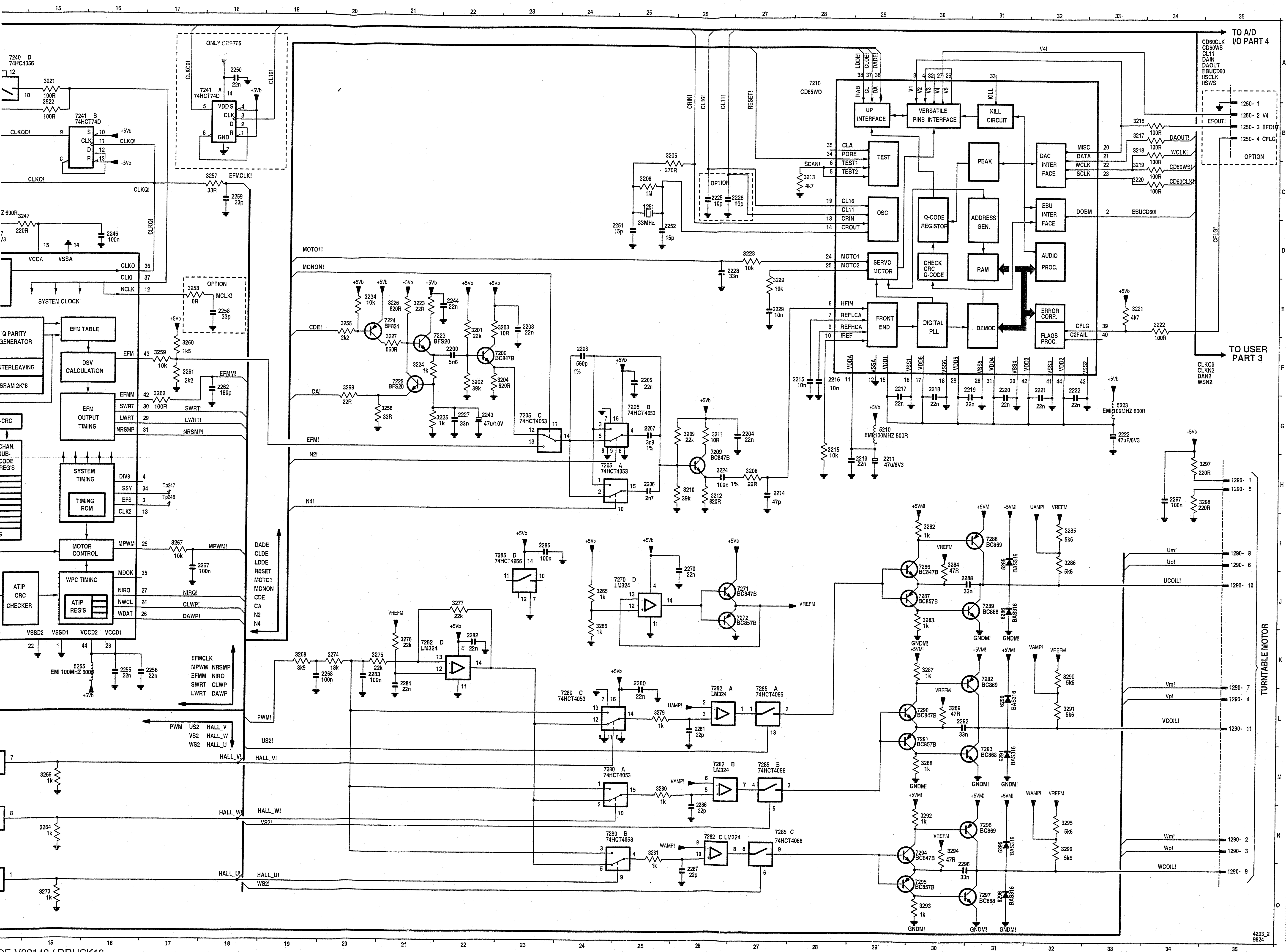

7170
UPD784026GC-528
CPU
PROGRAMMABLE INTERRUPT CONTROLLER
UART
BAUD RATE GENERATOR
CLOCKED SERIAL INTERFACE
TIMER / COUNTER (16 BITS)
TIMER / COUNTER CHANNEL-1 (PS+8 BITS)
TIMER / COUNTER CHANNEL-2 (PS+8 BITS)
TIMER / COUNTER CHANNEL-3 (PS+8 BITS)
REAL TIME OUTPUT PORT (4 BITS X 2)
CONVERTER D/A
CONVERTER A/D
AN10-AN17
INTP5
SYSTEM CONTROL
MODE
CONTROL BUS
2 ENCODING & DECODING PART
CA
CDE
CE_INT
CLCE
CLDE
CLWP
DACE
DADE
DAWP
EFMCLK
EFMM
HALL_U
HALL_V
HALL_W
LDCE
LDDE
LWRT
MONON
MOTO1
MPWM
N2
N4
NIRQ
NRSMP
PP
PWM
RESEN
RESET
SWRT
US2
VS2
WS2
SPI BUS
3 USER PROCESSOR PART
ACK
COMCLK
COMSYNC
MISO
MOSI
SYSSYNC
OPTION
NECMON!
1199
TRAY SWITCH
TRAY SENSE
TO TRAY MOTOR
TRAY+
TRAY-
1103
1104
TRS1N!
NOPEN!
NCLOSE!
COMCLK!
MISO!
SYSSYNC!
HALL_U!
HALL_V!
HALL_W!
RENSW!
US2!
VS2!
WS2!
N2!
RESET!
N4!
MONON!
MPWM!
FS!
CALF!
A2A!
A1A!
DAWP!
FSM!
PWM!
LDDE!
CLDE!
LDCE!
RADINT TO 7170-61
RENSW
FEOFS
IC7170
MPWM
DAWP
PWM
LDDE
CLDE
LDCE
EFMCLK
EFMM
SWRT
NRSMP
LWRT
7170
HMSW!
RADINT!
MOTO1!
FEOFS!
OTD!
NIRQ!
DADE!
CE_INT!
MOSI!
CLCE!
CLWP!
ACK!
COMSYNC!
RESEN!
CDE!
DADE!
DACE!
EECL!
EEDA!
DALD!
DACL!
DADI!
FROM 3/7325-8
RSTLA!
32MHz
7150 LM319
6155 BAT254
7186 BC847B
7182 BC857B
7183 BC869
7185 BC868
7192 BC857B
7193 BC869
7195 BC868
6185 BAS316
6186 BAS316
5170 EMI 100MHZ 600R
5176 EMI 100MHZ 600R
5179 EMI 100MHZ 600R
+5Vb
+4V
4203_1
9824

1101	C 1
1101	C 1
1101	D 1
1101	D 1
1101	F 1
1101	D 1
1101	D 1
1101	D 1
1101	F 1
1101	F 1
1101	F 1
1101	E 1
1101	E 1
1101	E 1
1101	G 1
1101	E 1
1101	H 1
1101	I 1
1101	I 1
1101	H 1
1101	J 1
1101	I 1
1102	K 1
1102	K 1
1102	K 1
1102	K 1
1102	K 1
1102	L 1
1102	L 1
1102	L 1
1102	L 1
1102	L 1
1102	M 1
1102	M 1
1102	M 1
1102	M 1
1102	M 1
1102	N 1
1102	N 1
1102	N 1
1102	N 1
1102	N 1
1102	O 1
1102	O 1
1103	J31
1103	K31
1104	L31
1104	N31
1135	F24
1143	J11
1177	H23
1199	D30
1199	D30
1199	C30
2100	B 4
2104	H 3
2105	H 7
2106	G 6
2107	G 5
2108	H 2
2109	H 3
2110	H 5
2111	H 4
2112	H 5
2113	J 4
2114	J 3
2115	J 2
2116	J 3
2117	J 4
2118	J 5
2119	K10
2120	E 8
2121	K11
2122	K11
2125	B 4
2126	D 4
2127	E 5
2128	E 5
2129	B 6
2130	G12
2131	G12
2132	G13
2134	F 9
2135	F10
2136	F10
2138	F10
2139	F 9
2140	G 9
2156	I15
2157	H15
2170	C18
2171	C17
2172	G14
2173	G15
2174	G15
2175	G16
2176	G17
2177	H23
2178	H24
2179	H24
2180	K30
2181	C19
2182	C20
2183	L29
2184	L30
2193	N30
2194	N30
2195	C20
3108	H 9
3109	I 8
3111	J 9
3112	K 9
3113	B 3
3114	C 4
3115	B 5
3116	C 3
3120	D 7
3121	D 8
3122	E 9
3123	D 9
3124	D 9
3125	D 3
3126	E 3
3127	E 4
3128	D 4
3129	D 4
3130	E 4
3131	D 6
3132	D 6
3133	E11
3134	F 8
3135	F 9
3136	F 9
3137	F 9
3138	E 8
3139	F 8
3140	E 9
3141	D 6
3142	J10
3143	J11
3144	H13
3149	H16
3150	C 9
3152	F15
3153	H17
3154	I16
3155	I15
3156	J15
3157	J15
3158	J15
3160	D18
3161	D19
3162	C19
3163	D17
3164	D20
3165	E23
3166	G16
3168	F23
3169	F23
3171	G23
3172	H23
3173	L19
3174	L19
3175	L19
3176	L20
3177	L21
3178	J30
3179	J30
3180	L27
3181	L27
3182	L27
3183	K28
3184	L28
3185	L28
3186	D22
3187	D23
3188	D23
3189	D23
3190	N27
3191	O27
3192	O27
3193	N28
3194	N28
3195	O28
3196	M30
3199	C23
3900	H 8
3901	I 9
3902	I 8
3903	C22
3904	K18
3905	J 2
3906	J 3
3908	G23
3910	I13
3911	I13
5104	G 6
5105	G 8
5106	H 5
5107	H 5
5108	I 5
5109	I 5
5110	I 5
5111	J 5
5130	F12
5132	G13
5170	C18
5176	G17
5179	G24
6120	D 8
6125	B 3
6130	J 8
6140	F 5
6141	F 5
6155	H15
6185	M27
6186	M27
7105	H 7
7120	D 8
7121	D 9
7125	C 3
7125	B 3
7130	G 9
7131	D 6
7132	D 6
7135	C 5
7135	B 5
7136	C 5
7150	H16
7160	C 8
7170	E17
7182	L28
7183	L29
7185	M29
7186	D23
7192	O28
7193	N29
7195	O29

2. ENCODING & DECODING PART

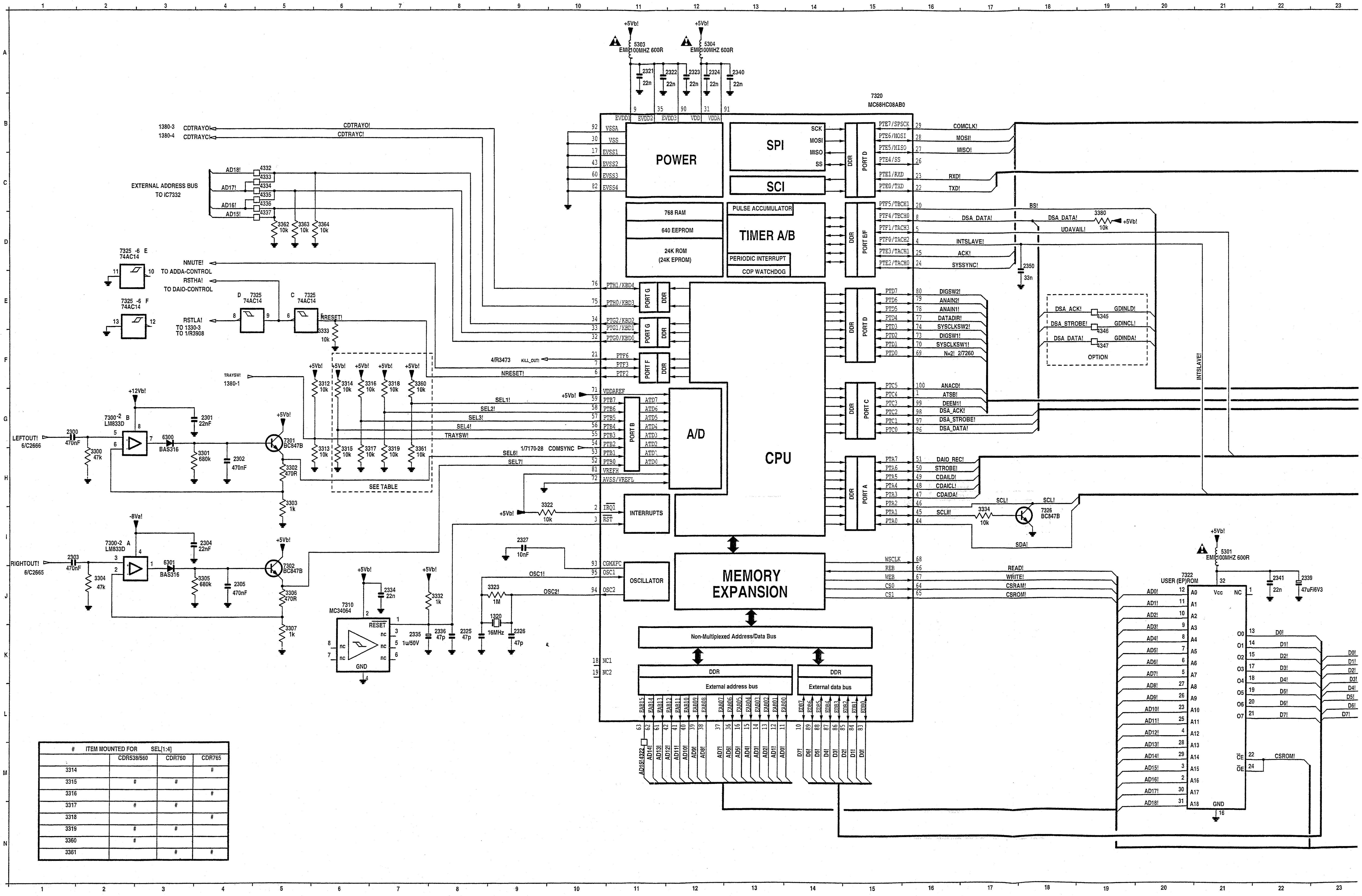


# ONLY FOR CDR538/560/760
## ONLY FOR CDR765
3/7320-69
N=2!
7260 A## 74HC4053
7260 B## 74HC4053
7260 C## 74HC4053
WSCDCEP!
CLKCDCEP!
DACDCEP!
WSN2!
IISWS!
CLKN2!
IISCLK!
DAN2!
DAIN!
4200 #
4201 #
4202 #
3926 10k
3925 10k
3927 10k
7240 B 74HC4066
7240 C 74HC4066
7240 D 74HC4066
7241 B 74HCT74D
7241 A 74HCT74D
ONLY CDR765
CLKQD!
CLKQ!
CLK16!
EFMCLK!
3257 33R
2259 33p
3921 100R
3922 100R
3923 47k
2248 22n
2250 22n
N2!
5245 EMI 100MHZ 600R
3246 390k
3247 220R
2245 22n
2247 47u/6V3
2246 100n
7245 TDA1371 CDCEP
3248 22k
3249 100k
3245 100k
IREF
WSI2
WSOT
WSI1
CLIN
DAIN
SBCL
SBDA
NRST
uCDA
uCCL
uCLD
uINT
HLD
CSTS
WOBL
VCCA
VSSA
CLKO
CLKI
NCLK
PLL
SYSTEM CLOCK
INPUT INTERFACE (I²S)
P Q PARITY GENERATOR
EFM TABLE
DSV CALCULATION
INTERLEAVING
SRAM 2K*8
SUBCODE R..W INPUT
INPUT P Q
Q-CRC
EFM OUTPUT TIMING
MISC. REG'S
Q-CHAN. SUB-CODE REG'S
uCONTROLLER INTERFACE
Q-CHANNEL PROCESSING
SYSTEM TIMING
TIMING ROM
MOTOR CONTROL
WOBBLE FILTERING AND DEMODULATION
ATIP CRC CHECKER
WPC TIMING
ATIP REG'S
EFM
EFMM
SWRT
LWRT
NRSMP
DIV8
SSY
EFS
CLK2
MPWM
MDOK
NIRQ
NWCL
WDAT
RAT2 RAT1 RAT0 TI TO VSSD2 VSSD1 VCCD2 VCCD1
5255 EMI 100MHZ 600R
2255 22n
2256 22n
OPTION
3258 0R
MCLK!
2258 33p
3260 1k5
3259 10k
3261 2k2
EFMM!
2262 180p
3262 100R
SWRT!
LWRT!
NRSMP!
MPWM!
3267 10k
2267 100n
NIRQ!
CLWP!
DAWP!
Tp220 Tp245 Tp246 Tp247 Tp248
3250 100R
3254 4k7
3920 0R
3252 22k
3251 22k
3253 22k
RESEN!
DACE!
CLCE!
LDCE!
CE_INT!
WCLK!
WSCDCEP!
CLKCDCEP!
DACDCEP!
PP!
2231 22n
3230 4k7
3231 16K 1%
2232 330p 1%
2233 330p 1%
3233 130k 1%
7230 C 74HC4066
7230 D 74HC4066
7230 A 74HC4066
7230 B 74HC4066
7235 B LM833
7235 A LM833
2235 22n
2234 330p
2236 330p
3235 16K
3236 4K7
2237 330p
2238 330p
2230 22n
2241 330p 1%
3239 130k
3240 130k 1%
2239 330p
3232 4K7
3237 10k 1%
3238 10k 1%
2242 22n
7240 A 74HC4066
3263 47k
N2!
3241 4k7
7150 B LM319
NC 14
NC 13
3242 1M
2240 22n
3244 2k2
3243 560k
+4V +5Vb +12Va +12Vb!
N2 RESEN DACE CLCE LDCE CE_INT
1 SERVO PART
SWRT CLWP NRSMP PP PWM WS2
CA DACE EFMCLK MONON US2 VS2
CE_INT DADE EFMM MOTO1 NIRQ HALL_W
CLCE DAWP LDCE N2 RESEN HALL_V MPWM
CLDE LWRT LDDE N4 RESET HALL_U CDE
EFMCLK MPWM NRSMP EFMM NIRQ SWRT CLWP LWRT DAWP
DADE CLDE LDDE RESET MOTO1 MONON CDE CA N2 N4
PWM US2 HALL_V VS2 HALL_W WS2 HALL_U
MOTO1! MONON! CDE! CA! EFM! N2! N4!
3255 2k2
3234 10k
3226 820R
3223 22R
2244 22n
7224 BF824
3227 560R
7223 BFS20
3201 22k
3203 10R
2200 5n6
7200 BC847B
3224 1k
7225 BFS20
3202 39k
3204 820R
3299 22R
3256 33R
3225 1k
2227 33n
2243 47u/10V
7285 D 74HCT40
VREFM
3277 22k
3276 22k
2282 22n
7282 D LM324
3268 3k9
3274 18k
3275 22k
2268 100n
2283 100n
2284 22n
PWM! US2! HALL_V! HALL_W! VS2! HALL_U! WS2!
3271 18k
B 7270 LM324
Vm! Vp!
3269 1k
3272 18k
C 7270 LM324
Wm! Wp!
3264 1k
3270 18k
A 7270 LM324
Um! Up!
3273 1k

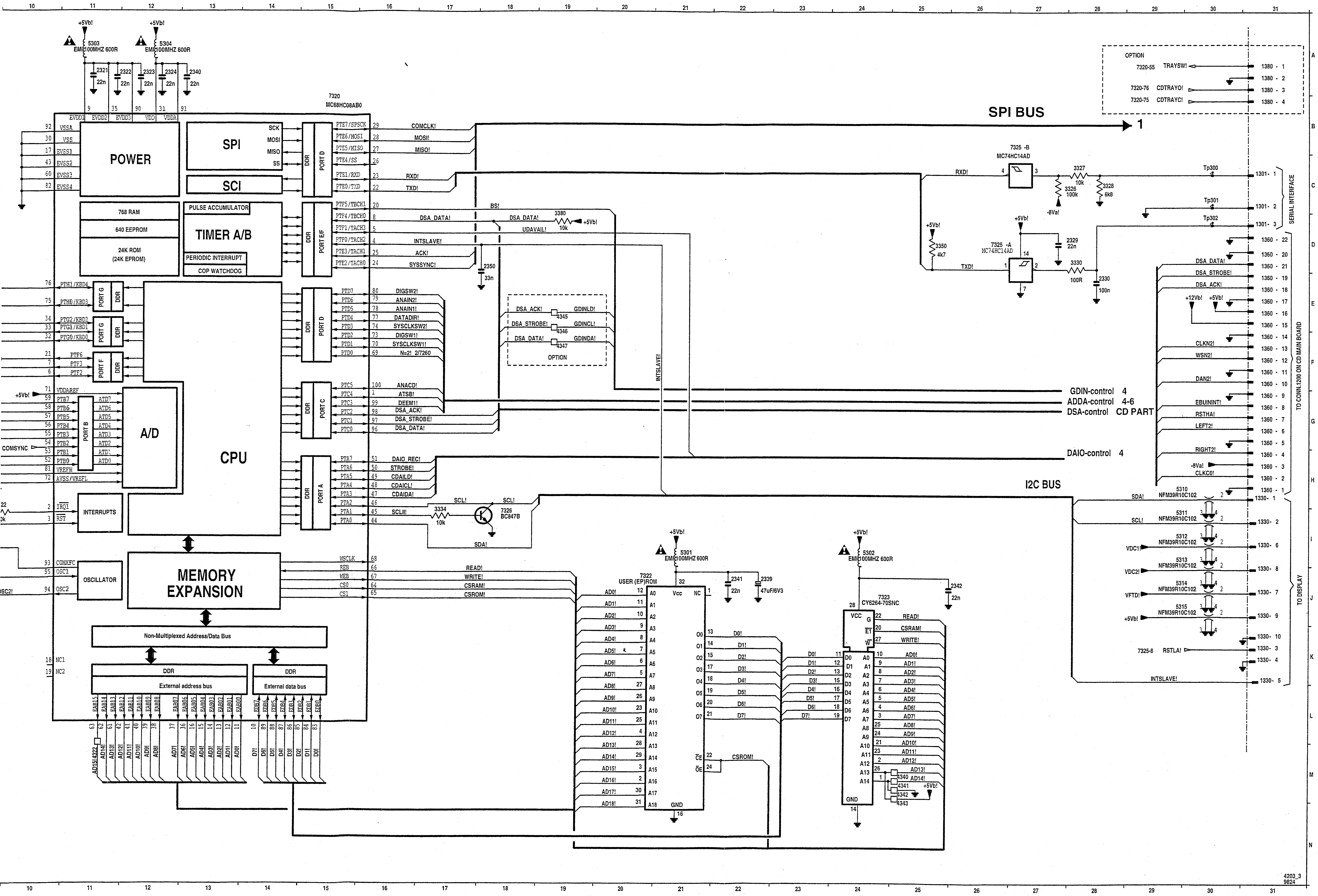

ONLY CDR755
7240 D 74HC4066
7241 A 74HCT74D
7241 B 74HCT74D
CLKQD!
CLKQ!
CLKC0!
CL16!
EFMCLK!
SYSTEM CLOCK
OPTION
MCLK!
Q PARITY GENERATOR
EFM TABLE
DSV CALCULATION
INTERLEAVING
SRAM 2K*8
EFM OUTPUT TIMING
SYSTEM TIMING
TIMING ROM
MOTOR CONTROL
WPC TIMING
ATIP REG'S
ATIP CRC CHECKER
CHAN. SUB-CODE REG'S
VCCA VSSA
VSSD2 VSSD1 VCCD2 VCCD1
EMI 100MHZ 600R
MOTO1!
MONON!
CDE!
CA!
EFM!
N2!
N4!
DADE CLDE LDDE RESET MOTO1 MONON CDE CA N2 N4
EFMCLK MPWM NRSMP EFMM NIRQ SWRT CLWP LWRT DAWP
PWM US2 HALL_V VS2 HALL_W WS2 HALL_U
PWM! US2! HALL_V! HALL_W! VS2! HALL_U! WS2!
MPWM! NIRQ! CLWP! DAWP! SWRT! LWRT! NRSMP! EFMM!
7210 CD65WD
UP INTERFACE
VERSATILE PINS INTERFACE
KILL CIRCUIT
TEST
OSC
Q-CODE REGISTOR
ADDRESS GEN.
PEAK
DAC INTER FACE
EBU INTER FACE
AUDIO PROC.
SERVO MOTOR
CHECK CRC Q-CODE
RAM
FRONT END
DIGITAL PLL
DEMOD
ERROR CORR.
FLAGS PROC.
CLA PORE TEST1 TEST2 CL16 CL11 CRIN CROUT MOTO1 MOTO2 HFIN REFLCA REFHCA IREF
MISC DATA WCLK SCLK DOBM CFLG C2FAIL
SCAN!
CRIN! CL16! CL11! RESET!
LDDE! CLDE! DADE!
RAB CL DA V1 V2 V3 V4 V5 KILL
V4!
33MHz.
DAOUT! WCLK! CD60WS! CD60CLK! EBUCD60! CFLG!
TO A/D I/O PART 4
CD60CLK CD60WS CL11 DAIN DAOUT EBUCD60 IISCLK IISWS
1250- 1 1250- 2 V4 1250- 3 EFOUT 1250- 4 CFLG
EFOUT!
OPTION
TO USER PART 3
CLKC0 CLKN2 DAN2 WSN2
7224 BF824
7223 BFS20
7225 BFS20
7200 BC847B
7205 C 74HCT4053
7205 B 74HCT4053
7205 A 74HCT4053
7209 BC847B
7285 D 74HCT4066
7270 D LM324
7271 BC847B
7272 BC857B
VREFM
7282 D LM324
7280 C 74HCT4053
7282 A LM324
7285 A 74HCT4066
7280 A 74HCT4053
7282 B LM324
7285 B 74HCT4066
7280 B 74HCT4053
7282 C LM324
7285 C 74HCT4066
UAMP! VAMP! WAMP!
7286 BC847B
7287 BC857B
7288 BC869
7289 BC868
7290 BC847B
7291 BC857B
7292 BC869
7293 BC868
7294 BC847B
7295 BC857B
7296 BC869
7297 BC868
BAS316
+5VM! GNDM!
Um! Up! UCOIL!
Vm! Vp! VCOIL!
Wm! Wp! WCOIL!
1290- 1 1290- 5 1290- 8 1290- 6 1290- 10 1290- 7 1290- 4 1290- 11 1290- 2 1290- 3 1290- 9
TURNTABLE MOTOR
5210 EMI 100MHZ 600R
5223 EMI 100MHZ 600R
4203_2 9824

1250	B35	3289	L30
1250	B35	3290	K32
1250	B35	3291	L32
1250	B35	3292	N30
1251	C25	3293	O30
1290	H35	3294	N30
1290	N35	3295	N32
1290	N35	3296	N32
1290	L35	3297	H35
1290	H35	3298	H35
1290	I35	3299	F20
1290	L35	3920	E12
1290	I35	3921	A15
1290	O35	3922	B15
1290	J35	3923	A13
1290	L35	3925	E 8
2200	F22	3926	D 8
2203	E23	3927	F 8
2204	G27	4200	D10
2205	F25	4201	E10
2206	H25	4202	F10
2207	G25	5210	G29
2208	F24	5223	G33
2210	H29	5245	C14
2211	H29	5255	K16
2214	H27	6285	I31
2215	F28	6286	J31
2216	F28	6290	L31
2217	F29	6291	M31
2218	F30	6295	N31
2219	F31	6296	O31
2220	F31	7150	I 9
2221	F32	7200	F22
2222	F32	7205	H24
2223	G33	7205	G25
2224	H26	7205	G23
2225	C26	7209	H26
2226	C27	7210	A28
2227	G22	7223	F21
2228	D27	7224	E21
2229	E27	7225	F21
2230	I 6	7230	G 5
2231	F 1	7230	I 6
2232	G 2	7230	G 2
2233	G 3	7230	I 2
2234	H 2	7235	I 7
2235	H 4	7235	H 3
2236	H 3	7240	J 1
2237	G 6	7240	A11
2238	G 7	7240	A13
2239	J 6	7240	A14
2240	H 9	7241	A17
2241	I 7	7241	B15
2242	J 4	7245	D13
2243	G22	7260	C 9
2244	E22	7260	D 9
2245	D14	7260	F10
2246	D16	7270	N14
2247	D14	7270	L14
2248	A12	7270	M14
2250	A18	7270	J25
2251	D25	7271	J27
2252	D25	7272	J27
2255	K16	7280	M24
2256	K17	7280	N24
2258	E18	7280	L24
2259	C18	7282	L26
2262	F18	7282	M26
2267	I18	7282	N26
2268	K20	7282	K21
2270	I26	7285	L27
2280	L25	7285	M27
2281	L26	7285	N27
2282	K22	7285	I22
2283	K21	7286	I30
2284	K21	7287	J30
2285	I23	7288	I31
2286	N26	7289	J31
2287	O26	7290	L30
2288	J31	7291	L30
2292	L31	7292	K31
2296	O31	7293	M31
2297	H34	7294	N30
3201	E22	7295	O30
3202	F22	7296	N31
3203	E23	7297	O31
3204	F23		
3205	B25		
3206	C25		
3208	H27		
3209	G26		
3210	H26		
3211	G26		
3212	H26		
3213	C28		
3215	G28		
3216	B33		
3217	B33		
3218	B33		
3219	C33		
3220	C33		
3221	E33		
3222	E34		
3223	E21		
3224	F21		
3225	G22		
3226	E21		
3227	F21		
3228	D27		
3229	E27		
3230	F 2		
3231	G 2		
3232	I 2		
3233	G 4		
3234	E20		
3235	H 5		
3236	I 5		
3237	J 4		
3238	J 4		
3239	J 7		
3240	J 8		
3241	I 8		
3242	H 9		
3243	J 9		
3244	H10		
3245	D12		
3246	D13		
3247	D15		
3248	D11		
3249	D12		
3250	E12		
3251	F12		
3252	F11		
3253	G11		
3254	E12		
3255	E20		
3256	G21		
3257	C18		
3258	E17		
3259	F17		
3260	F17		
3261	F17		
3262	G17		
3263	K 3		
3264	N15		
3265	J24		
3266	K24		
3267	I17		
3268	K19		
3269	M15		
3270	N13		
3271	L13		
3272	M13		
3273	O15		
3274	K20		
3275	K21		
3276	K21		
3277	J22		
3279	L25		
3280	M25		
3281	N25		
3282	I30		
3283	J30		
3284	I30		
3285	I32		
3286	I32		
3287	K30		
3288	M30		

3. USER PROCESSOR PART

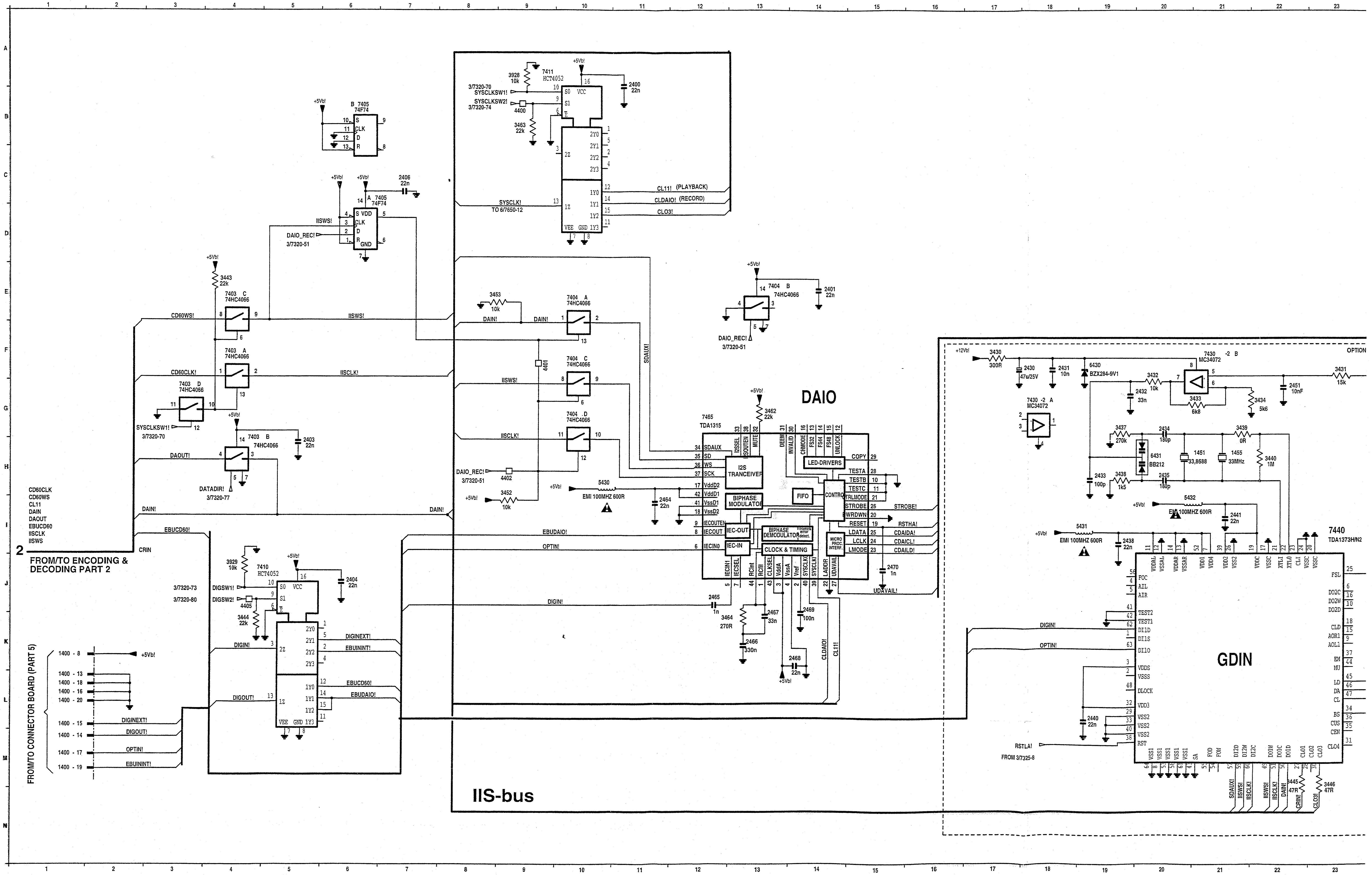

+5Vb!
5303
EMI 100MHZ 600R
5304
EMI 100MHZ 600R
2321 22n
2322 22n
2323 22n
2324 22n
2340 22n
7320
MC68HC08AB0
EVDD1
EVDD2
EVDD3
VDD
VDDA
VSSA
VSS
EVSS1
EVSS2
EVSS3
EVSS4
POWER
SPI
SCK
MOSI
MISO
SS
SCI
DDR
PORT D
PTE7/SPSCK
PTE6/MOSI
PTE5/MISO
PTE4/SS
PTE1/RXD
PTE0/TXD
COMCLK!
MOSI!
MISO!
RXD!
TXD!
768 RAM
640 EEPROM
24K ROM
(24K EPROM)
PULSE ACCUMULATOR
TIMER A/B
PERIODIC INTERRUPT
COP WATCHDOG
PORT E/F
PTF5/TBCH1
PTF4/TBCH0
PTF1/TACH3
PTF0/TACH2
PTE3/TACH1
PTE2/TACH0
BS!
DSA_DATA!
3380 10k
UDAVAIL!
INTSLAVE!
ACK!
SYSSYNC!
2350 33n
1380-3 CDTRAYO!
1380-4 CDTRAYC!
CDTRAYO!
CDTRAYC!
EXTERNAL ADDRESS BUS
TO IC7332
AD18!
AD17!
AD16!
AD15!
4332
4333
4334
4335
4336
4337
3362 10k
3363 10k
3364 10k
7325 -6 E
74AC14
NMUTE!
TO ADDA-CONTROL
RSTHA!
TO DAIO-CONTROL
7325 -6 F
74AC14
RSTLA!
TO 1330-3
TO 1/R3908
D 7325 74AC14
C 7325 74AC14
NRESET!
3333 10k
PTH1/KBD4
PTH0/KBD3
PTG2/KBD2
PTG1/KBD1
PTG0/KBD0
PORT G
PORT F
PTF6
PTF3
PTF2
4/R3473
KILL_OUT!
NRESET!
TRAYSW!
1380-1
+5Vb!
3312 10k
3314 10k
3316 10k
3318 10k
3360 10k
3313 10k
3315 10k
3317 10k
3319 10k
3361 10k
SEE TABLE
SEL1!
SEL2!
SEL3!
SEL4!
TRAYSW!
1/7170-28 COMSYNC
SEL6!
SEL7!
VDDAREF
PTB7
PTB6
PTB5
PTB4
PTB3
PTB2
PTB1
PTB0
VREFH
AVSS/VREFL
PORT B
ATD7
ATD6
ATD5
ATD4
ATD3
ATD2
ATD1
ATD0
A/D
CPU
+12Vb!
7300-2 B
LM833D
2301 22nF
6300
BAS316
7301
BC847B
LEFTOUT!
6/C2666
2300 470nF
3300 47k
3301 680k
2302 470nF
3302 470R
3303 1k
-8Va!
7300-2 A
LM833D
2304 22nF
6301
BAS316
7302
BC847B
RIGHTOUT!
6/C2665
2303 470nF
3304 47k
3305 680k
2305 470nF
3306 470R
3307 1k
3322 10k
IRQ1
RST
INTERRUPTS
7310
MC34064
RESET
GND
2334 22n
3332 1k
2335 1u/50V
2336 47p
2325 47p
2327 10nF
3323 1M
1320 16MHz
2326 47p
CGMXFC
OSC1
OSC2
OSC1!
OSC2!
OSCILLATOR
MEMORY EXPANSION
NC1
NC2
Non-Multiplexed Address/Data Bus
DDR
External address bus
External data bus
EAB15 … EAB00
ED7 … ED0
AD18/4322
AD14!
AD13!
AD12!
AD11!
AD10!
AD9!
AD8!
AD7!
AD6!
AD5!
AD4!
AD3!
AD2!
AD1!
AD0!
D7!
D6!
D5!
D4!
D3!
D2!
D1!
D0!
PTD7
PTD6
PTD5
PTD4
PTD3
PTD2
PTD1
PTD0
DIGSW2!
ANAIN2!
ANAIN1!
DATADIR!
SYSCLKSW2!
DIGSW1!
SYSCLKSW1!
N=2! 2/7260
PORT C
PTC5
PTC4
PTC3
PTC2
PTC1
PTC0
ANACD!
ATSB!
DEEM1!
DSA_ACK!
DSA_STROBE!
DSA_DATA!
PORT A
PTA7
PTA6
PTA5
PTA4
PTA3
PTA2
PTA1
PTA0
DAIO_REC!
STROBE!
CDAILD!
CDAICL!
CDAIDA!
SCLII!
3334 10k
SCL!
7326 BC847B
SDA!
DSA_ACK!
DSA_STROBE!
DSA_DATA!
4345
4346
4347
GDINLD!
GDINCL!
GDINDA!
OPTION
INTSLAVE!
WSCLK
REB
WEB
CS0
CS1
READ!
WRITE!
CSRAM!
CSROM!
5301
EMI 100MHZ 600R
7322
USER (EP)ROM
Vcc
NC
2341 22n
2339 47uF/6V3
A0 … A18
O0 … O7
CE
OE
GND
CSROM!

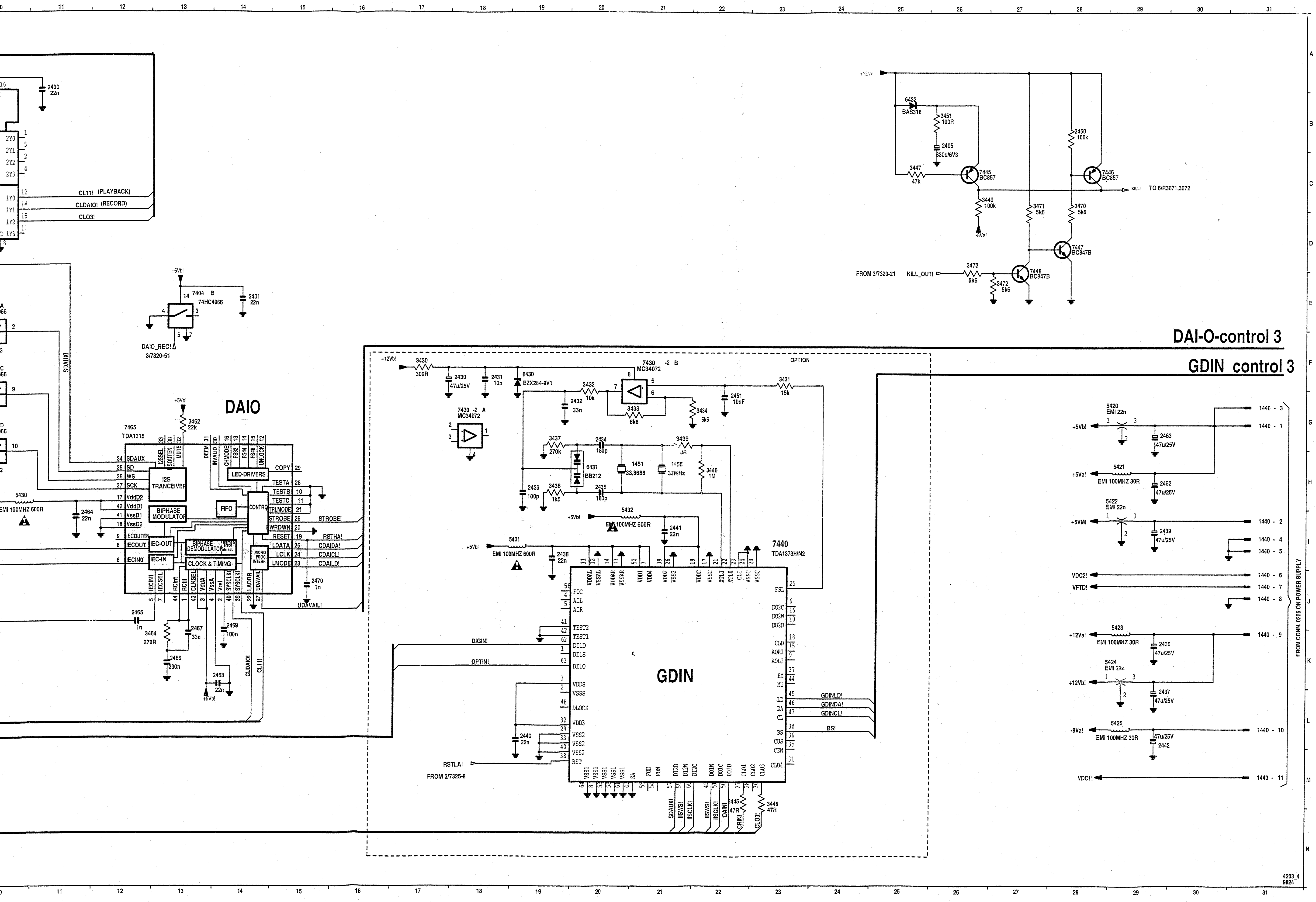
# ITEM MOUNTED FOR SEL[1:4]			
	CDR538/560	CDR760	CDR765
3314			#
3315	#	#	
3316			#
3317	#	#	
3318			#
3319	#	#	
3360	#		
3361		#	#


7320
MC68HC08AB0
POWER
SPI
SCI
768 RAM
640 EEPROM
24K ROM (24K EPROM)
PULSE ACCUMULATOR
TIMER A/B
PERIODIC INTERRUPT
COP WATCHDOG
CPU
A/D
INTERRUPTS
OSCILLATOR
MEMORY EXPANSION
Non-Multiplexed Address/Data Bus
DDR
External address bus
External data bus
PORT A
PORT B
PORT C
PORT D
PORT E/F
PORT F
PORT G
5303 EMI 100MHZ 600R
5304 EMI 100MHZ 600R
+5Vb!
COMCLK!
MOSI!
MISO!
RXD!
TXD!
BS!
DSA_DATA!
UDAVAIL!
INTSLAVE!
ACK!
SYSSYNC!
DIGSW2!
ANAIN2!
ANAIN1!
DATADIR!
SYSCLKSW2!
DIGSW1!
SYSCLKSW1!
N=2! 2/7260
ANACD!
ATSB!
DEEM1!
DSA_ACK!
DSA_STROBE!
DAIO_REC!
STROBE!
CDAILD!
CDAICL!
CDAIDA!
SCL!
SCLII!
SDA!
7326 BC847B
READ!
WRITE!
CSRAM!
CSROM!
COMSYNC
OPTION
GDINLD!
GDINCL!
GDINDA!
SPI BUS
1
GDIN-control 4
ADDA-control 4-6
DSA-control CD PART
DAIO-control 4
I2C BUS
7325 -B MC74HC14AD
7325 -A MC74HC14AD
Tp300
Tp301
Tp302
SERIAL INTERFACE
TO CONN.1200 ON CD MAIN BOARD
TO DISPLAY
TRAYSW!
CDTRAYO!
CDTRAYC!
CLKN2!
WSN2!
DAN2!
EBUININT!
RSTHA!
LEFT2!
RIGHT2!
CLKC0!
VDC1!
VDC2!
VFTD!
RSTLA!
5310 NFM39R10C102
5311 NFM39R10C102
5312 NFM39R10C102
5313 NFM39R10C102
5314 NFM39R10C102
5315 NFM39R10C102
7322 USER (EP)ROM
7323 CY6264-70SNC
5301 EMI 100MHZ 600R
5302 EMI 100MHZ 600R
47uF/6V3
4203_3 9824

1301	C31
1301	C31
1301	D31
1320	J 9
1330	H31
1330	I31
1330	K31
1330	K31
1330	K31
1330	I31
1330	J31
1330	J31
1330	J31
1330	K31
1360	D31
1360	D31
1360	D31
1360	E31
1360	E31
1360	E31
1360	E31
1360	E31
1360	F31
1360	F31
1360	F31
1360	F31
1360	F31
1360	G31
1360	G31
1360	G31
1360	G31
1360	G31
1360	H31
1360	H31
1360	H31
1360	H31
1380	A31
1380	A31
1380	A31
1380	B31
2300	G 1
2301	G 4
2302	H 4
2303	I 1
2304	I 4
2305	J 4
2321	A11
2322	A12
2323	A12
2324	A12
2325	K 8
2326	K 9
2327	I 9
2329	D28
2330	E28
2334	J 7
2335	K 7
2336	K 8
2339	J22
2340	A13
2341	J22
2342	J26
2350	D18
3300	H 2
3301	H 4
3302	H 5
3303	H 5
3304	J 2
3305	J 4
3306	J 5
3307	K 5
3312	F 6
3313	H 6
3314	F 6
3315	H 6
3316	F 6
3317	H 6
3318	F 7
3319	H 7
3322	H 9
3323	J 9
3326	C28
3327	C28
3328	C28
3330	D28
3332	J 8
3333	E 6
3334	I17
3350	D25
3360	F 7
3361	H 7
3362	D 5
3363	D 5
3364	D 6
3380	D19
4322	M11
4332	C 5
4333	C 5
4334	C 5
4335	C 5
4336	C 5
4337	D 5
4340	M25
4341	M25
4342	M25
4343	M25
4345	E19
4346	E19
4347	F19
5301	I21
5302	I24
5303	A11
5304	A12
5310	H29
5311	I29
5312	I29
5313	I29
5314	J29
5315	J29
6300	G 3
6301	I 3
7300	I 2
7300	G 2
7301	G 5
7302	J 5
7310	J 6
7320	B15
7322	J20
7323	J25
7325	D26
7325	B27
7325	E 6
7325	E 5
7325	D 2
7325	E 2
7326	I18

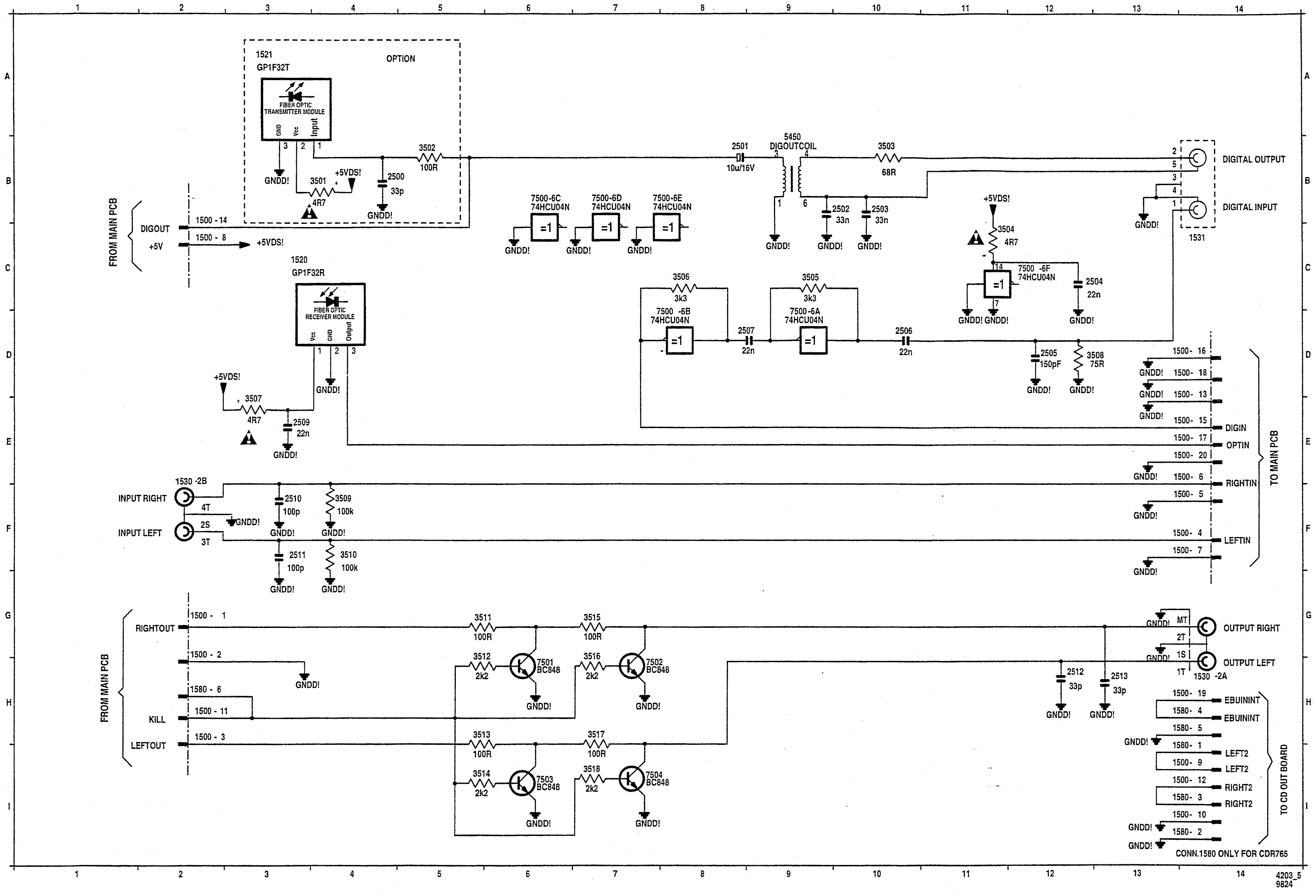
4. DIGITAL IN/OUT PART


DAIO
GDIN
IIS-bus
7465 TDA1315
7440 TDA1373H/N2
7411 HCT4052
7410 HCT4052
7403 74HC4066
7404 74HC4066
7405 74F74
7430 MC34072
I2S TRANCEIVER
BIPHASE MODULATOR
BIPHASE DEMODULATOR
CLOCK & TIMING
LED-DRIVERS
FIFO
CONTROL
MICRO PROC INTERF.
IEC-OUT
IEC-IN
CL11! (PLAYBACK)
CLDAIO! (RECORD)
CLO3!
SYSCLK! TO 6/7650-12
SYSCLKSW1!
SYSCLKSW2!
CD60WS!
CD60CLK!
IISWS!
IISCLK!
DAIN!
DAOUT
DATADIR!
DAIO_REC!
EBUCD60!
EBUDAIO!
OPTIN!
DIGIN!
DIGOUT!
DIGINEXT!
EBUINNT!
STROBE!
RSTHA!
CDAIDA!
CDAICL!
CDAILD!
UDAVAIL!
RSTLA! FROM 3/7325-8
EMI 100MHZ 600R
OPTION
CD60CLK
CD60WS
CL11
DAIN
DAOUT
EBUCD60
IISCLK
IISWS
CRIN
2 FROM/TO ENCODING & DECODING PART 2
FROM/TO CONNECTOR BOARD (PART 5)
1400 - 8
1400 - 13
1400 - 18
1400 - 16
1400 - 20
1400 - 15
1400 - 14
1400 - 17
1400 - 19
+5Vb!
+12Vb!
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
A B C D E F G H I J K L M N

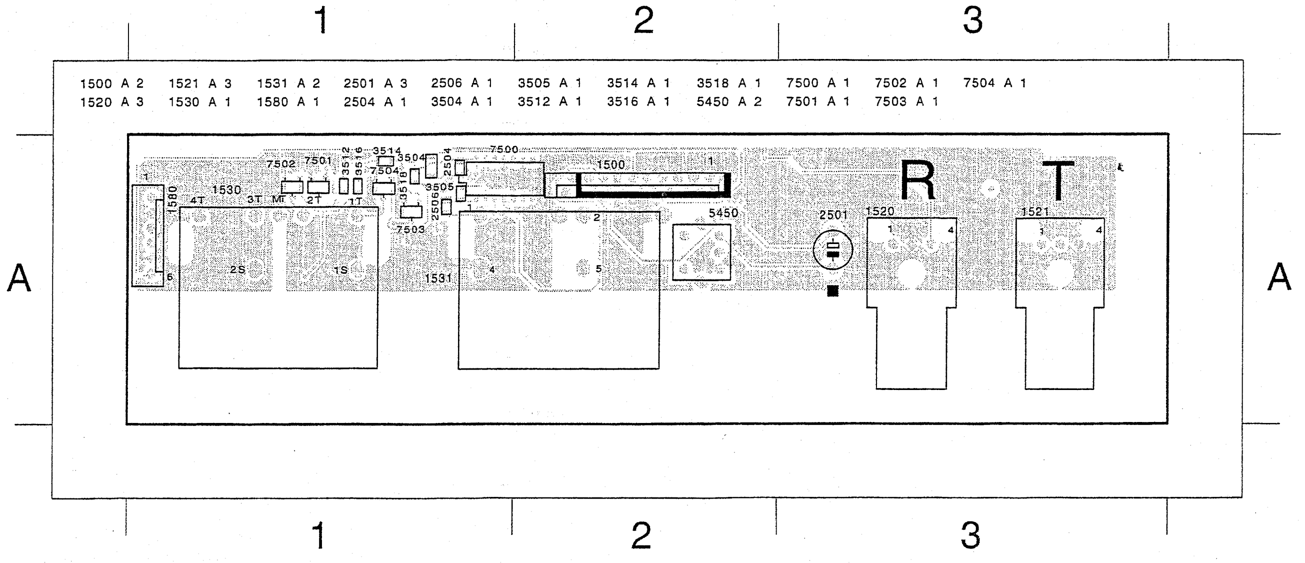

DAI-O-control 3
GDIN control 3
DAIO
GDIN
7465
TDA1315
I2S TRANCEIVER
BIPHASE MODULATOR
FIFO
CONTROL
LED-DRIVERS
IEC-OUT
IEC-IN
BIPHASE DEMODULATOR
CLOCK & TIMING
MICRO PROC. INTERF.
7440
TDA1373H/N2
7404 B
74HC4066
7430 -2 B
MC34072
7430 -2 A
MC34072
DAIO_REC!
3/7320-51
CL11! (PLAYBACK)
CLDAIO! (RECORD)
CLO3!
SDAUX!
STROBE!
RSTHA!
CDAIDA!
CDAICL!
CDAILD!
UDAVAIL!
DIGIN!
OPTIN!
RSTLA!
FROM 3/7325-8
GDINLD!
GDINDA!
GDINCL!
BS!
OPTION
+12Vb!
+5Vb!
KILL!
TO 6/R3671,3672
FROM 3/7320-21
KILL_OUT!
6432 BAS316
3451 100R
2405 330u/6V3
3447 47k
7445 BC857
3449 100k
3450 100k
7446 BC857
3471 5k6
3470 5k6
7447 BC847B
7448 BC847B
3473 5k6
3472 5k6
3430 300R
2430 47u/25V
2431 10n
6430 BZX284-9V1
3432 10k
2432 33n
3433 6k8
3434 5k6
3431 15k
2451 10nF
3437 270k
2434 180p
3439
3440 1M
6431 BB212
1451 33,8688
1455
2433 100p
3438 1k5
2435 180p
5432 EMI 100MHZ 600R
2441 22n
5431 EMI 100MHZ 600R
2438 22n
2440 22n
3445 47R
3446 47R
3462 22k
2400 22n
2401 22n
5430 EMI 100MHZ 600R
2464 22n
2465 1n
3464 270R
2466 330n
2467 33n
2469 100n
2468 22n
2470 1n
5420 EMI 22n
2463 47u/25V
5421 EMI 100MHZ 30R
2462 47u/25V
5422 EMI 22n
2439 47u/25V
5423 EMI 100MHZ 30R
2436 47u/25V
5424 EMI 22n
2437 47u/25V
5425 EMI 100MHZ 30R
2442 47u/25V
+5Vb!
+5Va!
+5VM!
VDC2!
VFTD!
+12Va!
+12Vb!
-8Va!
VDC1!
1440 - 3
1440 - 1
1440 - 2
1440 - 4
1440 - 5
1440 - 6
1440 - 7
1440 - 8
1440 - 9
1440 - 10
1440 - 11
FROM CONN. 0205 ON POWER SUPPLY
4203_4
9824

1400	K 1
1400	L 1
1400	M 1
1400	L 1
1400	L 1
1400	M 1
1400	L 1
1400	M 1
1400	L 1
1440	G31
1440	I31
1440	G31
1440	I31
1440	I31
1440	J31
1440	J31
1440	J31
1440	K31
1440	L31
1440	M31
1451	H21
1455	H21
2400	A11
2401	E14
2403	H 5
2404	J 6
2405	B26
2406	C 7
2430	F18
2431	F18
2432	G20
2433	H19
2434	G20
2435	H20
2436	K29
2437	L29
2438	I19
2439	I29
2440	L19
2441	I21
2442	L29
2451	G22
2462	H29
2463	G29
2464	I11
2465	J12
2466	K13
2467	K13
2468	K14
2469	J14
2470	J15
3430	F17
3431	F23
3432	F20
3433	G21
3434	G22
3437	G19
3438	H19
3439	G21
3440	H22
3443	E 4
3444	K 4
3445	M22
3446	M23
3447	C25
3449	C26
3450	B28
3451	B26
3452	H 9
3453	E 8
3462	G13
3463	B 9
3464	K13
3470	C28
3471	C27
3472	E27
3473	D26
3928	A 9
3929	J 4
4400	B 9
4401	F 9
4402	H 9
4405	J 4
5420	G28
5421	H29
5422	H28
5423	J29
5424	K28
5425	L29
5430	H10
5431	I19
5432	I20
6430	F19
6431	H20
6432	B25
7403	F 4
7403	H 4
7403	E 4
7403	G 3
7404	E10
7404	E13
7404	F10
7404	G10
7405	C 7
7405	B 6
7410	J 4
7411	A 9
7430	G18
7430	F21
7440	I23
7445	C26
7446	C28
7447	D28
7448	E27
7465	G12

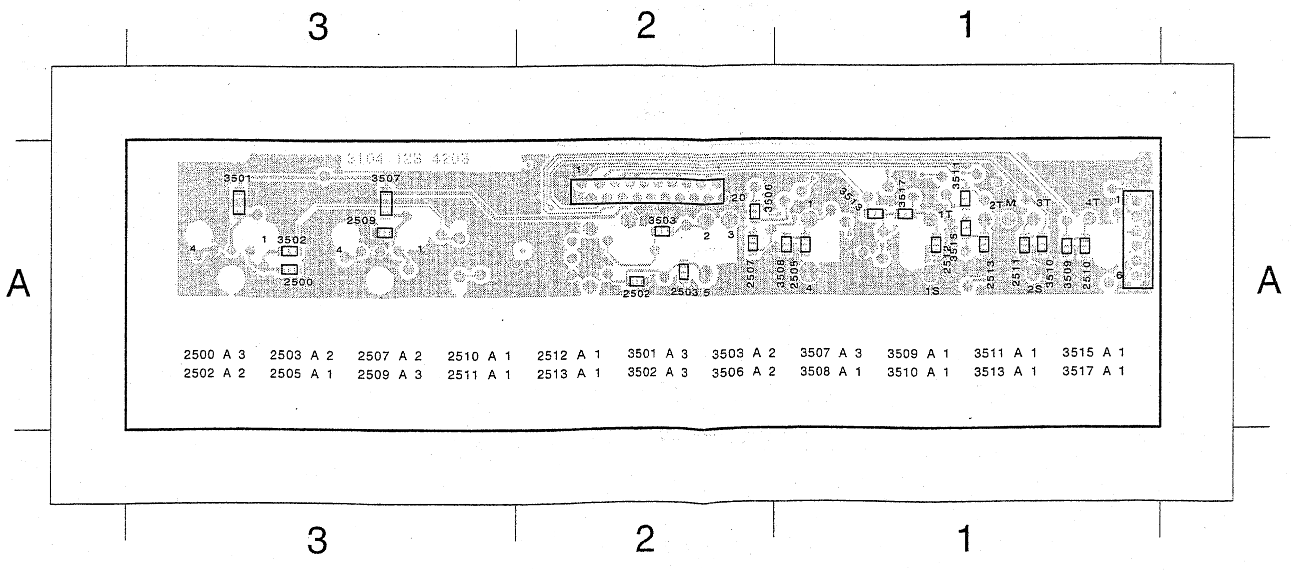
5 CONNECTOR PART


1521
GP1F32T
OPTION
FIBER OPTIC TRANSMITTER MODULE
GND
Vcc
Input
3502
100R
3501
4R7
+5VDS!
2500
33p
GNDD!
FROM MAIN PCB
DIGOUT
+5V
1500 - 14
1500 - 8
+5VDS!
1520
GP1F32R
FIBER OPTIC RECEIVER MODULE
Vcc
GND
Output
3507
4R7
2509
22n
7500-6C
74HCU04N
7500-6D
74HCU04N
7500-6E
74HCU04N
=1
2501
10u/16V
5450
DIGOUTCOIL
3503
68R
2502
33n
2503
33n
3506
3k3
3505
3k3
7500 -6B
74HCU04N
7500 -6A
74HCU04N
2507
22n
2506
22n
+5VDS!
3504
4R7
7500 -6F
74HCU04N
2504
22n
2505
150pF
3508
75R
DIGITAL OUTPUT
DIGITAL INPUT
1531
1500- 16
1500- 18
1500- 13
1500- 15
DIGIN
1500- 17
OPTIN
1500- 20
1500- 6
RIGHTIN
1500- 5
1500- 4
LEFTIN
1500- 7
TO MAIN PCB
1530 -2B
INPUT RIGHT
INPUT LEFT
4T
2S
3T
2510
100p
3509
100k
2511
100p
3510
100k
RIGHTOUT
1500 - 1
1500 - 2
1580 - 6
KILL
1500 - 11
LEFTOUT
1500 - 3
3511
100R
3515
100R
3512
2k2
7501
BC848
3516
2k2
7502
BC848
3513
100R
3517
100R
3514
2k2
7503
BC848
3518
2k2
7504
BC848
2512
33p
2513
33p
MT
2T
1S
1T
1530 -2A
OUTPUT RIGHT
OUTPUT LEFT
1500- 19
EBUININT
1580- 4
EBUININT
1580- 5
1580- 1
LEFT2
1500- 9
LEFT2
1500- 12
RIGHT2
1580- 3
RIGHT2
1500- 10
1580- 2
TO CD OUT BOARD
CONN.1580 ONLY FOR CDR765
GNDD!
4203_5
9824

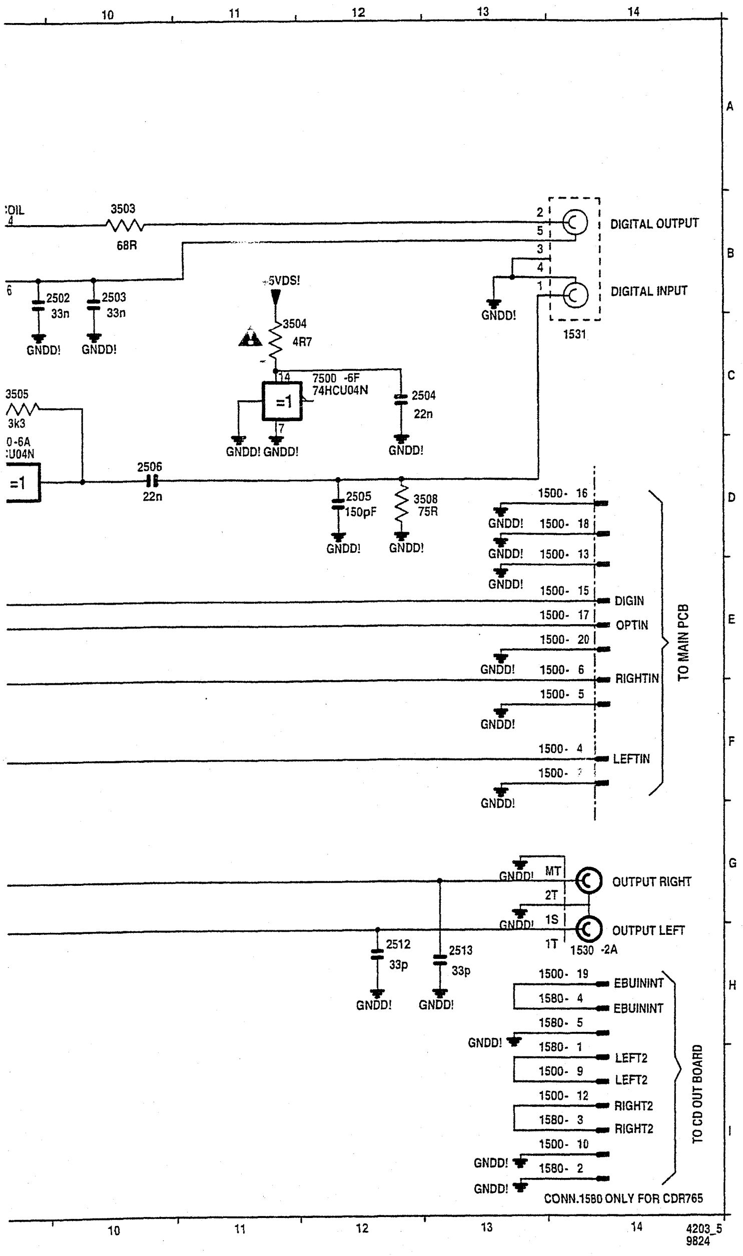
1500	G 2
1500	G 2
1500	H 2
1500	F13
1500	F13
1500	E13
1500	F13
1500	C 2
1500	I13
1500	I13
1500	H 2
1500	I13
1500	D13
1500	B 2
1500	E13
1500	D13
1500	E13
1500	D13
1500	H13
1500	E13
1520	C 3
1521	A 3
1530	H14
1530	E 2
1531	C14
1580	I13
1580	I13
1580	I13
1580	H13
1580	H13
2500	B 5
2501	B 9
2502	B10
2503	B10
2504	C13
2505	D12
2506	D10
2507	D 9
2509	E 3
2510	F 3
2511	F 3
2512	H12
2513	H13
3501	B 4
3502	B 5
3503	B10
3504	C12
3505	C 9
3506	C 8
3507	E 3
3508	D13
3509	F 4
3510	F 4
3511	G 5
3512	H 5
3513	H 5
3514	I 5
3515	G 7
3516	H 7
3517	H 7
3518	I 7
5450	B 9
7500	D 9
7500	D 8
7500	B 6
7500	B 7
7500	B 7
7500	C12
7501	H 6
7502	H 7
7503	I 6
7504	I 7


1
2
3
A
1530
1580
4T
3T
MT
2T
1T
2S
1S
1531
7502
7501
3512
3516
3514
3504
2504
7504
3518
3505
2506
7503
7500
1500
5450
2501
1520
1521
R
T

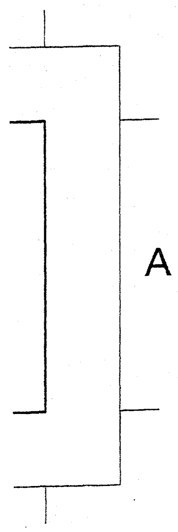
1500 A 2	1521 A 3	1531 A 2	2501 A 3	2506 A 1	3505 A 1	3514 A 1	3518 A 1	7500 A 1	7502 A 1	7504 A 1
1520 A 3	1530 A 1	1580 A 1	2504 A 1	3504 A 1	3512 A 1	3516 A 1	5450 A 2	7501 A 1	7503 A 1	

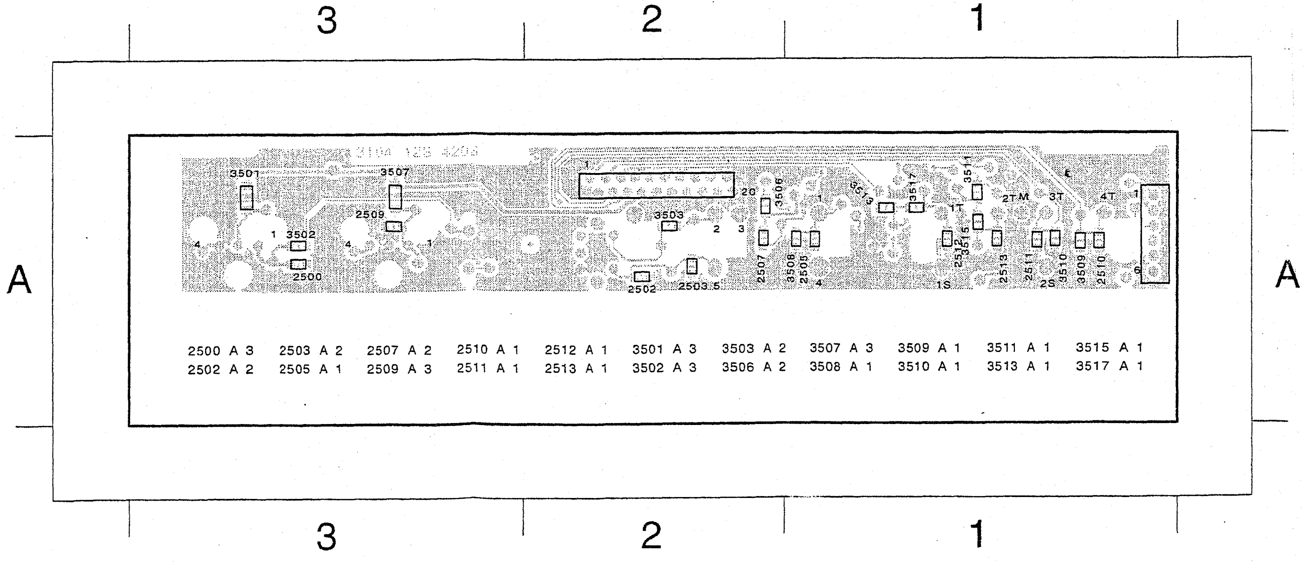

3
2
1
A
3104 125 4203
3501
3507
3502
2500
2509
3503
2502
2503
3506
2507
3508
2505
3517
3511
2512
3515
2513
2511
3510
3509
2510
2T
MT
3T
4T
1S
2S

2500 A 3	2503 A 2	2507 A 2	2510 A 1	2512 A 1	3501 A 3	3503 A 2	3507 A 3	3509 A 1	3511 A 1	3515 A 1
2502 A 2	2505 A 1	2509 A 3	2511 A 1	2513 A 1	3502 A 3	3506 A 2	3508 A 1	3510 A 1	3513 A 1	3517 A 1


10
11
12
13
14
A
B
C
D
E
F
G
H
I
3503
68R
DIGITAL OUTPUT
DIGITAL INPUT
1531
2502
33n
2503
33n
GNDD!
+5VDS!
3504
4R7
7500 -6F
74HCU04N
=1
14
7
2504
22n
3505
3k3
2506
22n
2505
150pF
3508
75R
1500- 16
1500- 18
1500- 13
1500- 15
1500- 17
1500- 20
1500- 6
1500- 5
1500- 4
1500- 2
DIGIN
OPTIN
RIGHTIN
LEFTIN
TO MAIN PCB
MT
2T
1S
1T
OUTPUT RIGHT
OUTPUT LEFT
1530 -2A
2512
33p
2513
33p
1500- 19
1580- 4
1580- 5
1580- 1
1500- 9
1500- 12
1580- 3
1500- 10
1580- 2
EBUININT
LEFT2
RIGHT2
TO CD OUT BOARD
CONN.1580 ONLY FOR CDR765
4203_5
9824

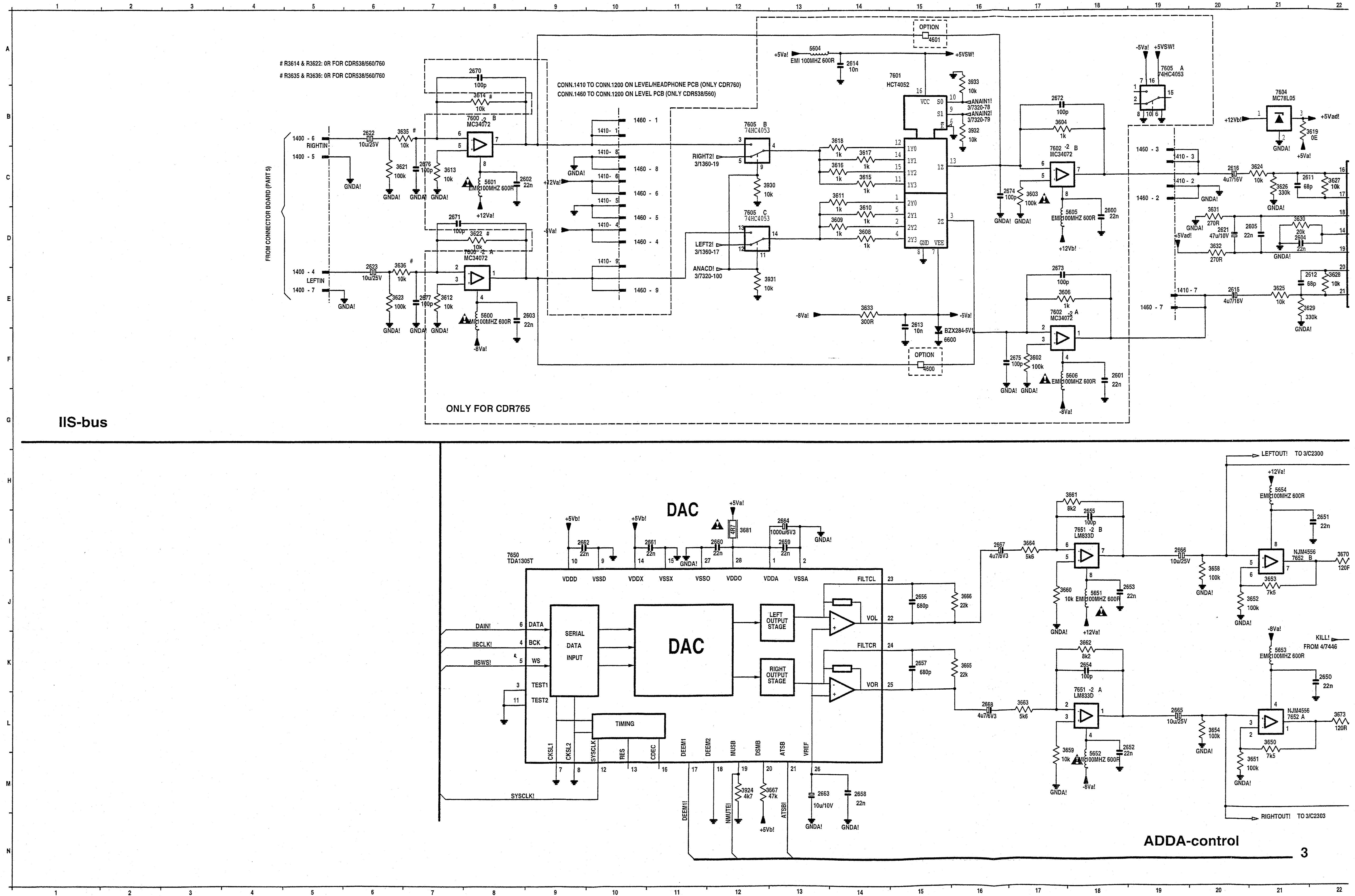
1500	G 2
1500	G 2
1500	H 2
1500	F13
1500	F13
1500	E13
1500	F13
1500	C 2
1500	I13
1500	I13
1500	H 2
1500	I13
1500	D13
1500	B 2
1500	E13
1500	D13
1500	E13
1500	D13
1500	H13
1500	E13
1520	C 3
1521	A 3
1530	H14
1530	E 2
1531	C14
1580	I13
1580	I13
1580	I13
1580	H13
1580	H13
2500	B 5
2501	B 9
2502	B10
2503	B10
2504	C13
2505	D12
2506	D10
2507	D 9
2509	E 3
2510	F 3
2511	F 3
2512	H12
2513	H13
3501	B 4
3502	B 5
3503	B10
3504	C12
3505	C 9
3506	C 8
3507	E 3
3508	D13
3509	F 4
3510	F 4
3511	G 5
3512	H 5
3513	H 5
3514	I 5
3515	G 7
3516	H 7
3517	H 7
3518	I 7
5450	B 9
7500	D 9
7500	D 8
7500	B 6
7500	B 7
7500	B 7
7500	C12
7501	H 6
7502	H 7
7503	I 6
7504	I 7



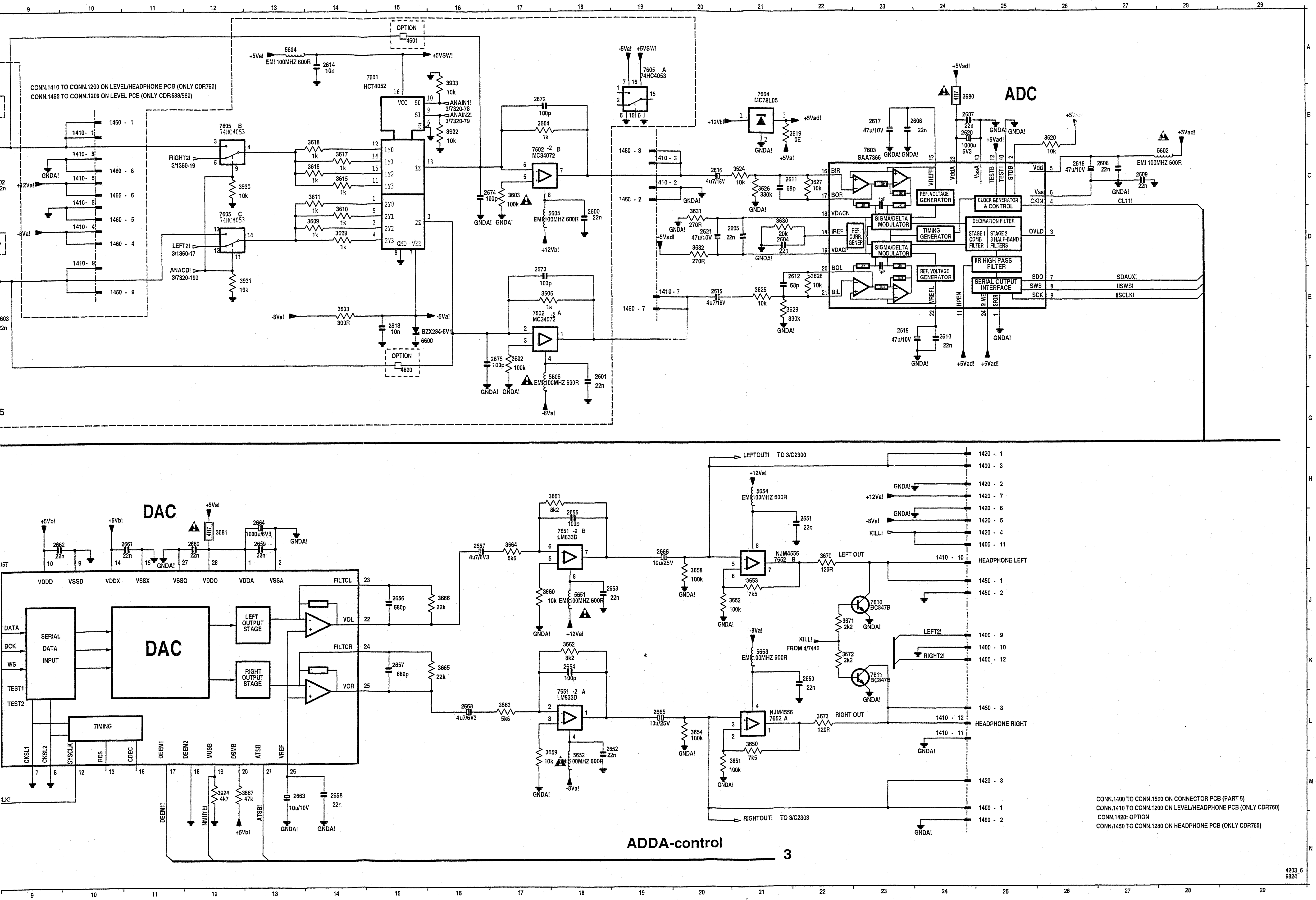

3
2
1
A
A
2104 129 4203
3501
3502
3507
2509
3503
3506
2500
2502
2503
2507
3508
2505
3517
3511
2512
3515
2513
2511
3510
3509
2510
2T M
3T
4T
1S
2S

2500 A 3	2503 A 2	2507 A 2	2510 A 1	2512 A 1	3501 A 3	3503 A 2	3507 A 3	3509 A 1	3511 A 1	3515 A 1
2502 A 2	2505 A 1	2509 A 3	2511 A 1	2513 A 1	3502 A 3	3506 A 2	3508 A 1	3510 A 1	3513 A 1	3517 A 1

6. ANALOG IN/OUT PART



# R3614 & R3622: 0R FOR CDR538/560/760
# R3635 & R3636: 0R FOR CDR538/560/760
CONN.1410 TO CONN.1200 ON LEVEL/HEADPHONE PCB (ONLY CDR760)
CONN.1460 TO CONN.1200 ON LEVEL PCB (ONLY CDR538/560)
FROM CONNECTOR BOARD (PART 5)
1400 - 6 RIGHTIN
1400 - 5
1400 - 4 LEFTIN
1400 - 7
7600 -2 B MC34072
7600 -2 A MC34072
7605 B 74HC4053
7605 C 74HC4053
7605 A 74HC4053
7601 HCT4052
7602 -2 B MC34072
7602 -2 A MC34072
7604 MC78L05
OPTION 4601
OPTION 4600
5604 EMI 100MHZ 600R
RIGHT2! 3/1360-19
LEFT2! 3/1360-17
ANACD! 3/7320-100
ANAIN1! 3/7320-78
ANAIN2! 3/7320-79
BZX284-5V1 6600
+5Va! +5VSW! +12Va! -8Va! +12Vb! -5Va! +5Vad! GNDA!
ONLY FOR CDR765
IIS-bus
DAC
7650 TDA1305T
VDDD VSSD VDDX VSSX VSSO VDDO VDDA VSSA
DATA BCK WS TEST1 TEST2
SERIAL DATA INPUT
DAC
TIMING
LEFT OUTPUT STAGE
RIGHT OUTPUT STAGE
FILTCL VOL FILTCR VOR
CKSL1 CKSL2 SYSCLK RES CDEC DEEM1 DEEM2 MUSB DSMB ATSB VREF
DAIN! IISCLK! IISWS! SYSCLK!
DEEM1! NMUTE! ATSBI!
7651 -2 B LM833D
7651 -2 A LM833D
NJM4556 7652 B
NJM4556 7652 A
LEFTOUT! TO 3/C2300
RIGHTOUT! TO 3/C2303
KILL! FROM 4/7446
ADDA-control
3


ADC
DAC
7601 HCT4052
7602 MC34072
7603 SAA7366
7604 MC78L05
7605 74HC4053
7651 LM833D
7652 NJM4556
7610 BC847B
7611 BC847B
OPTION
+5Va!
+5VSW!
+12Vb!
+12Va!
-5Va!
-8Va!
+5Vad!
+5Vb!
GNDA!
REF. VOLTAGE GENERATOR
SIGMA/DELTA MODULATOR
TIMING GENERATOR
REF. CURR. GENER.
CLOCK GENERATOR & CONTROL
DECIMATION FILTER
STAGE 1 COMB FILTER
STAGE 2 3 HALF-BAND FILTERS
IIR HIGH PASS FILTER
SERIAL OUTPUT INTERFACE
SDAUX!
IISWS!
IISCLK!
CL11!
SERIAL DATA INPUT
LEFT OUTPUT STAGE
RIGHT OUTPUT STAGE
TIMING
DATA
BCK
WS
TEST1
TEST2
LEFTOUT! TO 3/C2300
RIGHTOUT! TO 3/C2303
LEFT OUT
RIGHT OUT
HEADPHONE LEFT
HEADPHONE RIGHT
KILL!
KILL! FROM 4/7446
LEFT2!
RIGHT2!
ANACD! 3/7320-100
RIGHT2! 3/1360-19
LEFT2! 3/1360-17
ANAIN1! 3/7320-78
ANAIN2! 3/7320-79
DEEM1!
NMUTE!
ATSB!
EMI 100MHZ 600R
BZX284-5V1

CONN.1410 TO CONN.1200 ON LEVEL/HEADPHONE PCB (ONLY CDR760)
CONN.1460 TO CONN.1200 ON LEVEL PCB (ONLY CDR538/560)

CONN.1400 TO CONN.1500 ON CONNECTOR PCB (PART 5)
CONN.1410 TO CONN.1200 ON LEVEL/HEADPHONE PCB (ONLY CDR760)
CONN.1420: OPTION
CONN.1450 TO CONN.1280 ON HEADPHONE PCB (ONLY CDR765)

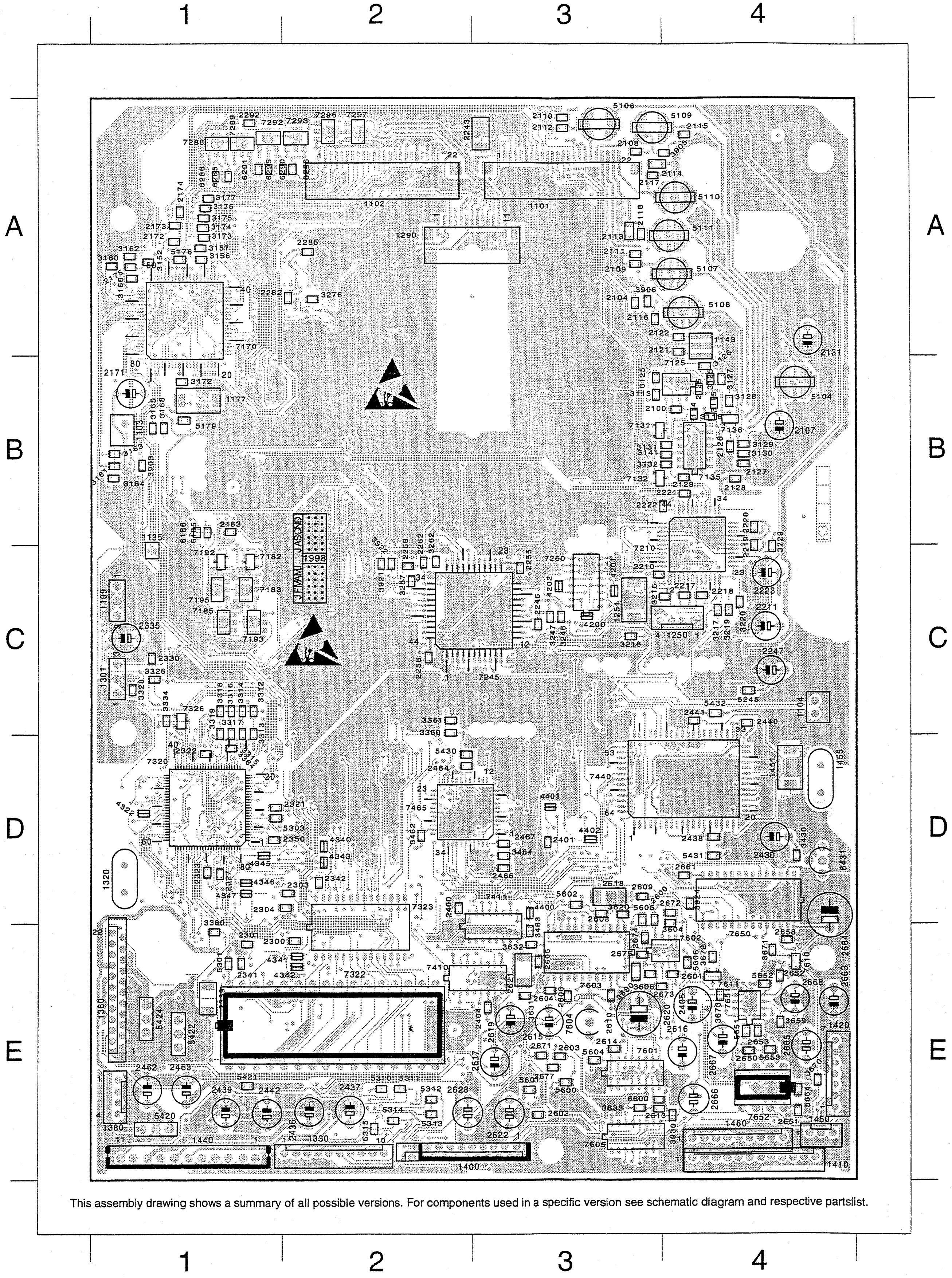
ADDA-control

3

4203_6
9824

1400	M24
1400	N24
1400	H25
1400	E 5
1400	C 5
1400	B 5
1400	E 5
1400	K25
1400	K25
1400	I25
1400	K25
1410	B10
1410	C19
1410	C19
1410	D10
1410	C10
1410	C10
1410	E19
1410	C10
1410	D10
1410	I24
1410	L24
1410	L24
1420	H25
1420	H25
1420	M24
1420	I25
1420	I25
1420	I25
1420	H25
1450	J25
1450	J25
1450	L24
1460	B10
1460	C19
1460	C19
1460	D10
1460	D10
1460	C10
1460	E19
1460	C10
1460	E10
2600	D18
2601	F18
2602	C 9
2603	E 9
2604	D21
2605	D21
2606	B24
2607	B24
2608	C27
2609	C27
2610	F24
2611	C21
2612	E22
2613	E15
2614	A14
2615	E20
2616	C20
2617	B23
2618	C26
2619	F23
2620	B24
2621	D20
2622	B 6
2623	E 6
2650	K22
2651	I22
2652	L19
2653	J19
2654	K18
2655	I18
2656	J15
2657	K15
2658	M14
2659	I13
2660	I12
2661	I11
2662	I 9
2663	M13
2664	I13
2665	L19
2666	I19
2667	I16
2668	L16
2670	A 8
2671	D 7
2672	B17
2673	D17
2674	C17
2675	F17
2676	C 7
2677	E 7
3602	F17
3603	C17
3604	B17
3606	E17
3608	D14
3609	D14
3610	D14
3611	C14
3612	E 7
3613	C 7
3614	B 8
3615	C14
3616	C14
3617	C14
3618	B14
3619	B22
3620	B26
3621	C 6
3622	D 8
3623	E 6
3624	C21
3625	E21
3626	C21
3627	C22
3628	E22
3629	E22
3630	D21
3631	D20
3632	D20
3633	E14
3635	B 7
3636	D 6
3650	L21
3651	M21
3652	J21
3653	J21
3654	L20
3658	J20
3659	M18
3660	J17
3661	H18
3662	K18
3663	L17
3664	I17
3665	K16
3666	J16
3667	M13
3670	I22
3671	J22
3672	K22
3673	L22
3680	B24
3681	I12
3924	M12
3930	C13
3931	E13
3932	B16
3933	A16
4600	F15
4601	A15
5600	E 8
5601	C 8
5602	C28
5604	A13
5605	D18
5606	F18
5651	J18
5652	M18
5653	K21
5654	H21
6600	F16
7600	D 7
7600	B 8
7601	A15
7602	E17
7602	C17
7603	C23
7604	B21
7605	A19
7605	B12
7605	D12
7610	J23
7611	K23
7650	I 8
7651	L18
7651	I18
7652	L21
7652	I21

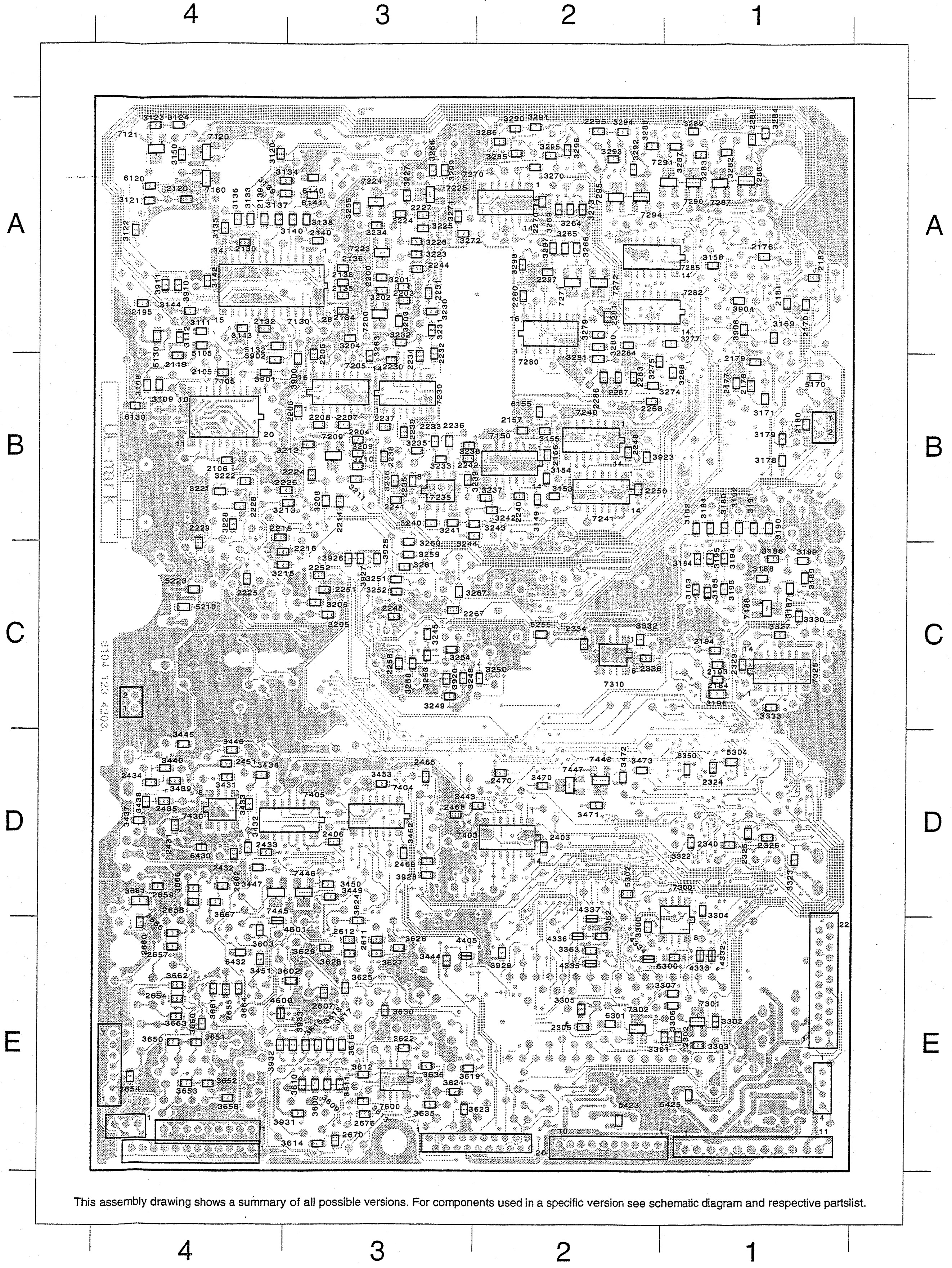
CDR MAINBOARD TOP SIDE



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective partslist.

1101	A	3
1102	A	2
1103	B	1
1104	C	4
1135	C	1
1143	A	4
1177	B	1
1199	C	1
1250	C	4
1251	C	3
1290	A	2
1301	C	1
1320	D	1
1330	E	2
1360	E	1
1380	E	1
1400	E	2
1410	E	4
1420	E	4
1440	E	1
1450	E	4
1451	D	4
1455	D	4
1460	E	4
2100	B	4
2104	A	3
2107	B	4
2108	A	3
2109	A	3
2110	A	3
2111	A	3
2112	A	3
2113	A	3
2114	A	3
2115	A	4
2116	A	3
2117	A	3
2118	A	3
2121	A	4
2122	A	4
2125	B	4
2126	B	4
2127	B	4
2128	B	4
2129	B	4
2131	A	4
2171	B	1
2172	A	1
2173	A	1
2174	A	1
2175	A	1
2183	B	1
2210	C	3
2211	C	4
2217	C	4
2218	C	4
2219	C	4
2220	B	4
2221	B	4
2222	B	4
2223	C	4
2243	A	3
2246	C	3
2247	C	4
2255	C	3
2256	C	2
2259	C	2
2262	C	2
2282	A	2
2285	A	2
2292	A	1
2300	E	2
2301	E	1
2303	D	2
2304	D	2
2321	D	1
2322	D	1
2323	D	1
2327	D	1
2330	C	1
2335	C	1
2339	E	1
2341	E	1
2342	D	2
2350	D	1
2400	D	2
2401	D	3
2404	E	3
2405	E	4
2430	D	4
2436	E	2
2437	E	2
2438	D	4
2439	E	1
2440	C	4
2441	C	4
2442	E	1
2462	E	1
2463	E	1
2464	D	2
2466	D	3
2467	D	3
2600	D	3
2601	E	4
2602	E	3
2603	E	3
2604	E	3
2605	E	3
2606	E	3
2608	D	3
2609	D	3
2610	E	3
2613	E	3
2614	E	3
2615	E	3
2616	E	4
2617	E	3
2618	D	3
2619	E	3
2620	E	3
2621	E	3
2622	E	3
2623	E	2
2650	E	4
2651	E	4
2652	E	4
2653	E	4
2658	E	4
2661	D	4
2663	E	4
2664	D	4
2665	E	4
2666	E	4
2667	E	4
2668	E	4
2671	E	3
2672	D	4
2673	E	3
2674	E	3
2675	E	3
2677	E	3
3113	B	3
3114	B	4
3115	B	4
3116	B	4
3125	B	4
3126	B	4
3127	B	4
3128	B	4
3129	B	4
3130	B	4
3131	B	4
3132	B	4
3141	B	4
3152	A	1
3156	A	1
3157	A	1
3160	A	1
3161	B	1
3162	A	1
3163	B	1
3164	B	1
3165	B	1
3166	A	1
3168	B	1
3172	B	1
3173	A	1
3174	A	1
3175	A	1
3176	A	1
3177	A	1
3216	C	4
3217	C	4
3218	C	3
3219	C	4
3220	C	4
3229	C	4
3246	C	3
3247	C	3
3257	C	2
3262	C	2
3276	A	2
3312	C	1
3313	C	1
3314	C	1
3315	C	1
3316	C	1
3317	C	1
3318	C	1
3319	C	1
3326	C	1
3328	C	1
3334	C	1
3360	C	2
3361	C	2
3364	D	1
3380	E	1
3430	D	4
3462	D	2
3463	E	3
3464	D	3
3604	E	4
3606	E	3
3620	D	3
3631	E	3
3632	E	3
3633	E	3
3659	E	4
3670	E	4
3671	E	4
3672	E	4
3673	E	4
3680	E	3
3903	B	1
3905	A	4
3906	A	3
3921	C	2
3922	C	2
3924	D	4
3930	E	4
4200	C	3
4201	C	3
4202	C	3
4322	D	1
4340	D	2
4341	E	2
4342	E	2
4343	D	2
4345	D	1
4346	D	1
4347	D	1
4400	D	3
4401	D	3
4402	D	3
5104	B	4
5106	A	3
5107	A	4
5108	A	4
5109	A	3
5110	A	4
5111	A	4
5176	A	1
5179	B	1
5245	C	4
5301	E	1
5303	D	1
5310	E	2
5311	E	2
5312	E	2
5313	E	2
5314	E	2
5315	E	2
5420	E	1
5421	E	1
5422	E	1
5424	E	1
5430	D	2
5431	D	4
5432	C	4
5600	E	3
5601	E	3
5602	D	3
5604	E	3
5605	D	3
5606	E	4
5651	E	4
5652	E	4
5653	E	4
5654	E	4
6125	B	3
6185	B	1
6186	B	1
6285	A	1
6286	A	1
6290	A	1
6291	A	1
6295	A	2
6296	A	2
6431	D	4
6600	E	3
7125	B	4
7131	B	3
7132	B	3
7135	B	4
7136	B	4
7170	A	1
7182	C	1
7183	C	1
7185	C	1
7192	C	1
7193	C	1
7195	C	1
7210	C	4
7245	C	3
7260	C	3
7288	A	1
7289	A	1
7292	A	1
7293	A	2
7296	A	2
7297	A	2
7320	D	1
7322	E	2
7323	E	2
7326	C	1
7410	E	3
7411	E	3
7440	D	4
7465	D	2
7601	E	3
7602	E	4
7603	E	3
7604	E	3
7605	E	3
7610	E	4
7611	E	4
7650	D	4
7651	E	4
7652	E	4

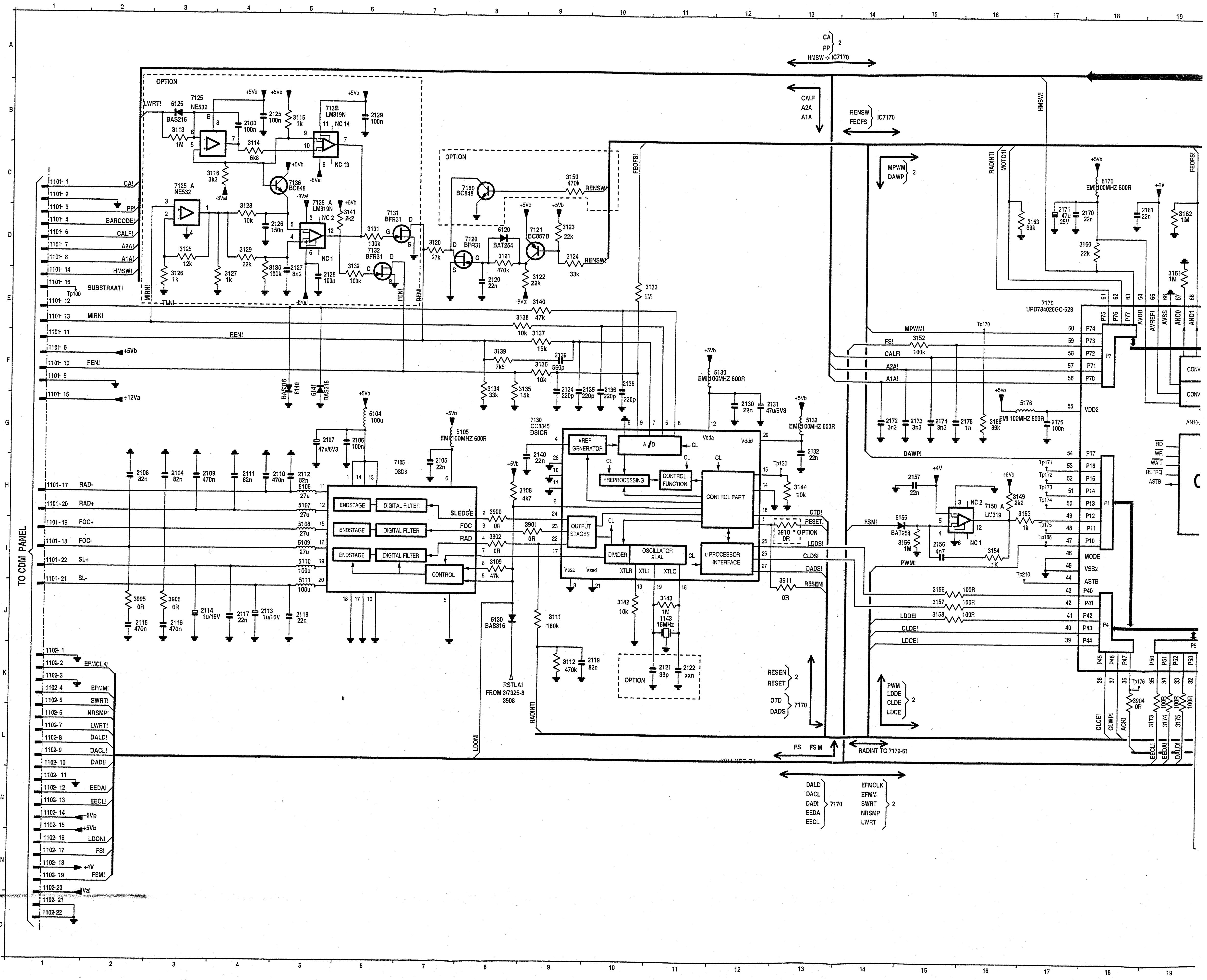
CDR MAINBOARD BOTTOM SIDE



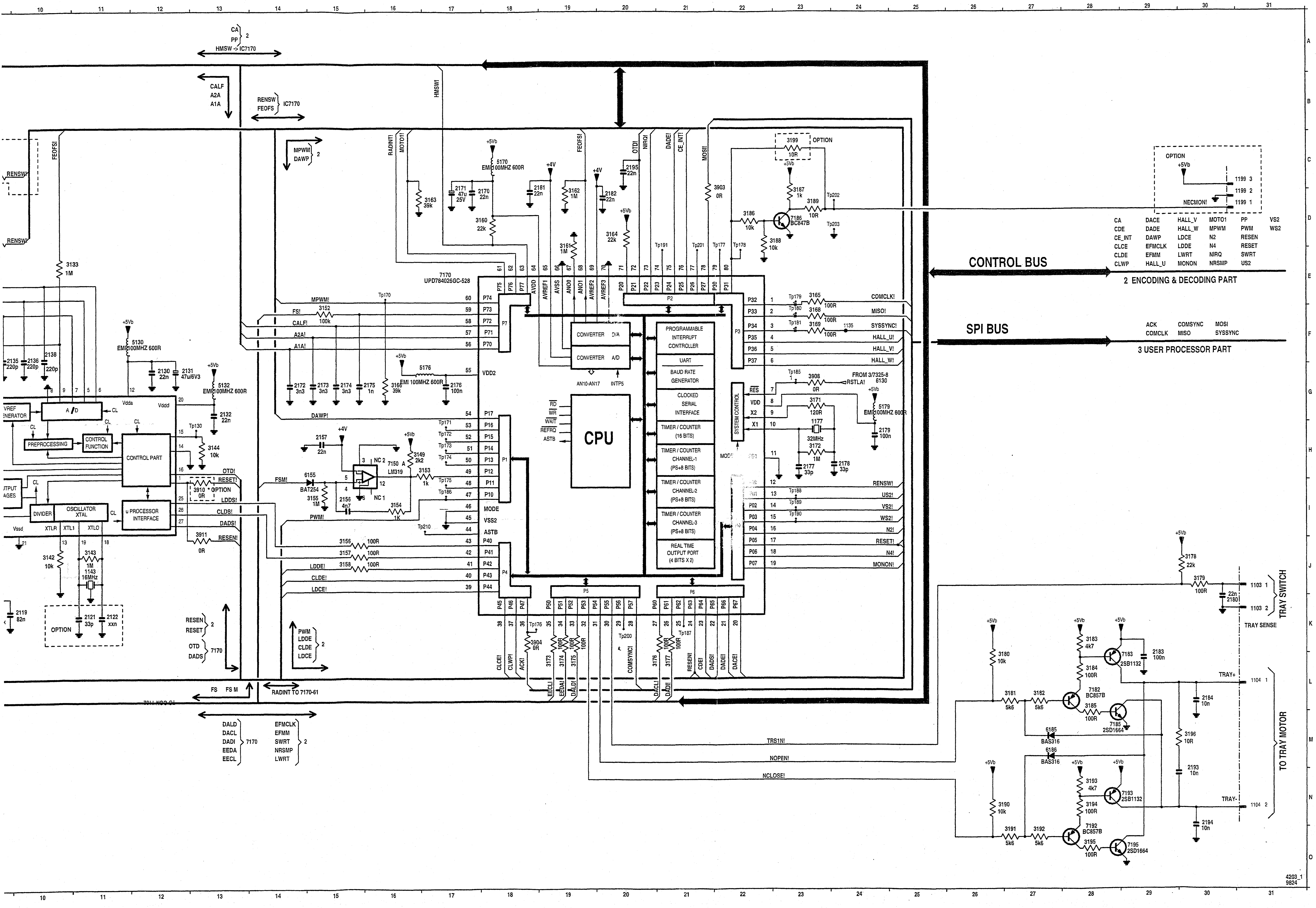
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective partslist.

2105	B 4
2106	B 4
2119	B 4
2120	A 4
2130	A 4
2132	A 4
2134	A 3
2135	A 3
2136	A 3
2138	A 3
2139	A 4
2140	A 3
2156	B 2
2157	B 2
2170	A 1
2176	A 1
2177	B 1
2178	B 1
2179	B 1
2180	B 1
2181	A 1
2182	A 1
2184	C 1
2193	C 1
2194	C 1
2195	A 4
2200	A 3
2203	A 3
2204	B 3
2205	B 3
2206	B 3
2207	B 3
2208	B 3
2214	B 3
2215	B 4
2216	C 4
2224	B 3
2225	C 4
2226	B 4
2227	A 3
2228	B 4
2229	C 4
2230	B 3
2231	A 3
2232	B 3
2233	B 3
2234	B 3
2235	B 3
2236	B 3
2237	B 3
2238	B 3
2239	B 3
2240	B 2
2241	B 3
2242	B 3
2244	A 3
2245	C 3
2248	B 2
2250	B 2
2251	C 3
2252	C 3
2258	C 3
2267	C 3
2268	B 2
2270	A 2
2280	A 2
2281	A 2
2283	B 2
2284	A 2
2286	B 2
2287	B 2
2288	A 1
2296	A 2
2297	A 2
2302	E 1
2305	E 2
2324	D 1
2325	D 1
2326	D 1
2329	C 1
2334	C 2
2336	C 2
2340	D 1
2403	D 2
2406	D 3
2431	D 4
2432	D 4
2433	D 4
2434	D 4
2435	D 4
2451	D 4
2465	D 3
2468	D 3
2469	D 3
2470	D 2
2607	E 3
2611	E 3
2612	E 3
2654	E 4
2655	E 4
2656	D 4
2657	E 4
2659	D 4
2660	E 4
2662	D 4
2670	E 3
2676	E 3
3108	B 4
3109	B 4
3111	A 4
3112	A 4
3120	A 4
3121	A 4
3122	A 4
3123	A 4
3124	A 4
3133	A 4
3134	A 4
3135	A 4
3136	A 4
3137	A 4
3138	A 3
3139	A 4
3140	A 3
3142	A 4
3143	A 4
3144	A 4
3149	B 2
3150	A 4
3153	B 2
3154	B 2
3155	B 2
3158	A 1
3169	A 1
3171	B 1
3178	B 1
3179	B 1
3180	B 1
3181	B 1
3182	B 1
3183	C 1
3184	C 1
3185	C 1
3186	C 1
3187	C 1
3188	C 1
3189	C 1
3190	B 1
3191	B 1
3192	B 1
3193	C 1
3194	C 1
3195	C 1
3196	C 1
3199	C 1
3201	A 3
3202	A 3
3203	A 3
3204	A 3
3205	C.3
3206	C 3
3208	B 3
3209	B 3
3210	B 3
3211	B 3
3212	B 3
3213	B 3
3215	C 4
3221	B 4
3222	B 4
3223	A 3
3224	A 3
3225	A 3
3226	A 3
3227	A 3
3228	B 4
3230	A 3
3231	A 3
3232	A 3
3233	B 3
3234	A 3
3235	B 3
3236	B 3
3237	B 2
3238	B 3
3239	B 3
3240	B 3
3241	B 3
3242	B 2
3243	B 3
3244	B 3
3245	C 3
3248	C 3
3249	C 3
3250	C 2
3251	C 3
3252	C 3
3253	C 3
3254	C 3
3255	A 3
3256	A 3
3258	C 3
3259	C 3
3260	C 3
3261	C 3
3263	B 3
3264	A 2
3265	A 2
3266	A 2
3267	C 3
3268	B 1
3269	A 2
3270	A 2
3271	A 3
3272	A 3
3273	A 2
3274	B 2
3275	B 2
3277	A 1
3279	A 2
3280	A 2
3281	B 2
3282	A 1
3283	A 1
3284	A 1
3285	A 2
3286	A 2
3287	A 1
3288	A 2
3289	A 1
3290	A 2
3291	A 2
3292	A 2
3293	A 2
3294	A 2
3295	A 2
3296	A 2
3297	A 2
3298	A 2
3299	A 3
3300	E 2
3301	E 1
3302	E 1
3303	E 1
3304	D 1
3305	E 2
3306	E 1
3307	E 1
3322	D 1
3323	D 1
3327	C 1
3330	C 1
3332	C 2
3333	C 1
3350	D 1
3362	E 2
3363	E 2
3431	D 4
3432	D 4
3433	D 4
3434	D 4
3437	D 4
3438	D 4
3439	D 4
3440	D 4
3443	D 2
3444	E 3
3445	D 4
3446	D 4
3447	D 4
3449	D 3
3450	D 3
3451	E 4
3452	D 3
3453	D 3
3470	D 2
3471	D 2
3472	D 2
3473	D 2
3602	E 3
3603	E 4
3608	E 3
3609	E 3
3610	E 3
3611	E 3
3612	E 3
3613	E 3
3614	E 3
3615	E 3
3616	E 3
3617	E 3
3618	E 3
3619	E 3
3621	E 3
3622	E 3
3623	E 3
3624	E 3
3625	E 3
3626	E 3
3627	E 3
3628	E 3
3629	E 3
3630	E 3
3635	E 3
3636	E 3
3650	E 4
3651	E 4
3652	E 4
3653	E 4
3654	E 4
3658	E 4
3660	E 4
3661	E 4
3662	E 4
3663	E 4
3664	E 4
3665	E 4
3666	D 4
3667	D 4
3681	D 4
3900	B 3
3901	B 4
3902	B 4
3904	A 1
3908	A 1
3910	A 4
3911	A 4
3920	C 3
3923	B 2
3925	C 3
3926	C 3
3927	C 3
3928	D 3
3929	E 2
3931	E 3
3932	E 4
3933	E 3
4332	E 1
4333	E 1
4334	E 2
4335	E 2
4336	E 2
4337	E 2
4405	E 3
4600	E 4
4601	E 4
5105	A 4
5130	A 4
5132	A 4
5170	B 1
5210	C 4
5223	C 4
5255	C 2
5302	D 2
5304	D 1
5423	E 2
5425	E 1
6120	A 4
6130	B 4
6140	A 3
6141	A 3
6155	B 2
6300	E 1
6301	E 2
6430	D 4
6432	E 4
7105	B 4
7120	A 4
7121	A 4
7130	A 4
7150	B 2
7160	A 4
7186	C 1
7200	A 3
7205	B 3
7209	B 3
7223	A 3
7224	A 3
7225	A 3
7230	B 3
7235	B 3
7240	B 2
7241	B 2
7270	A 2
7271	A 2
7272	A 2
7280	A 2
7282	A 2
7285	A 2
7286	A 1
7287	A 1
7290	A 1
7291	A 1
7294	A 2
7295	A 2
7300	E 1
7301	E 1
7302	E 2
7310	C 2
7325	C 1
7403	D 2
7404	D 3
7405	D 3
7430	D 4
7445	D 4
7446	D 3
7447	D 2
7448	D 2
7600	E 3

1. SERVO PART

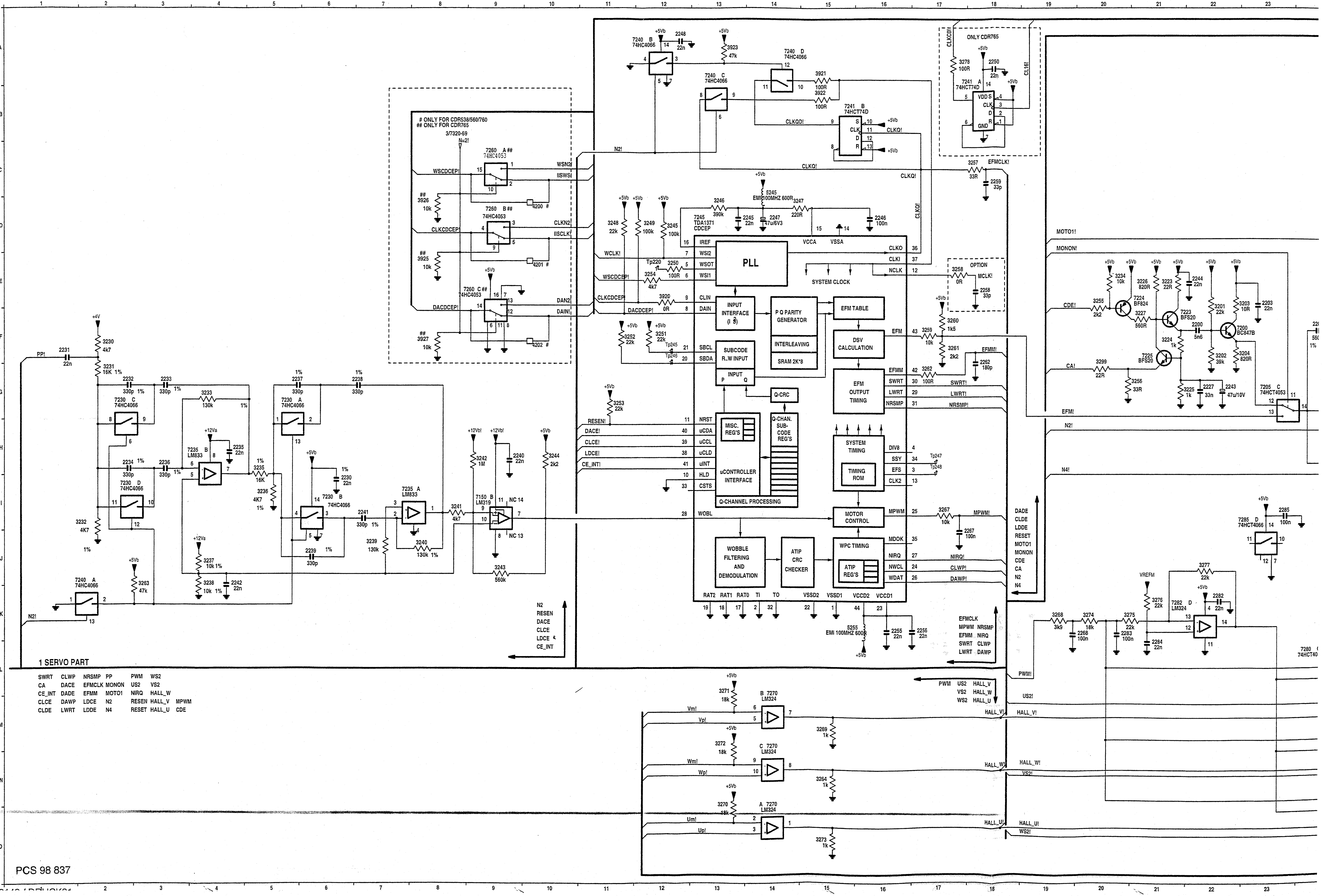

TO CDM PANEL
OPTION
7125 NE532
7135 A LM319N
7136 BC848
7131 BFR31
7132 BFR31
7160 BC848
7120 BFR31
7121 BC857B
6120 BAT254
6125 BAS216
7105 DSD3
ENDSTAGE
DIGITAL FILTER
CONTROL
SLEDGE
FOC
RAD
7130 OQ8845 DSICR
VREF GENERATOR
A/D
PREPROCESSING
CONTROL FUNCTION
CONTROL PART
OUTPUT STAGES
DIVIDER
OSCILLATOR XTAL
u PROCESSOR INTERFACE
1143 16MHz
RSTLA! FROM 3/7325-8 3908
7150 A LM319
7170 UPD784026GC-528
HMSW -> IC7170
CALF A2A A1A
RENSW FEOFS IC7170
MPWM DAWP
RESEN RESET
OTD DADS 7170
PWM LDDE CLDE LDCE
FS FS M
RADINT TO 7170-61
DALD DACL DADI EEDA EECL 7170
EFMCLK EFMM SWRT NRSMP LWRT
1101-1 CA!
1101-2 PP!
1101-3 BARCODE!
1101-4 CALF!
1101-6 A2A!
1101-7 A1A!
1101-8 HMSW!
1101-14 SUBSTRAAT!
1101-16 Tp100
1101-12
1101-13 MIRN!
1101-11 REN!
1101-5 +5Vb
1101-10 FEN!
1101-9
1101-15 +12Va
1101-17 RAD-
1101-20 RAD+
1101-19 FOC+
1101-18 FOC-
1101-22 SL+
1101-21 SL-
1102-1
1102-2 EFMCLK!
1102-3
1102-4 EFMM!
1102-5 SWRT!
1102-6 NRSMP!
1102-7 LWRT!
1102-8 DALD!
1102-9 DACL!
1102-10 DADI!
1102-11
1102-12 EEDA!
1102-13 EECL!
1102-14 +5Vb
1102-15 +5Vb
1102-16 LDON!
1102-17 FS!
1102-18 +4V
1102-19 FSM!
1102-20 -8Va!
1102-21
1102-22

Supplement

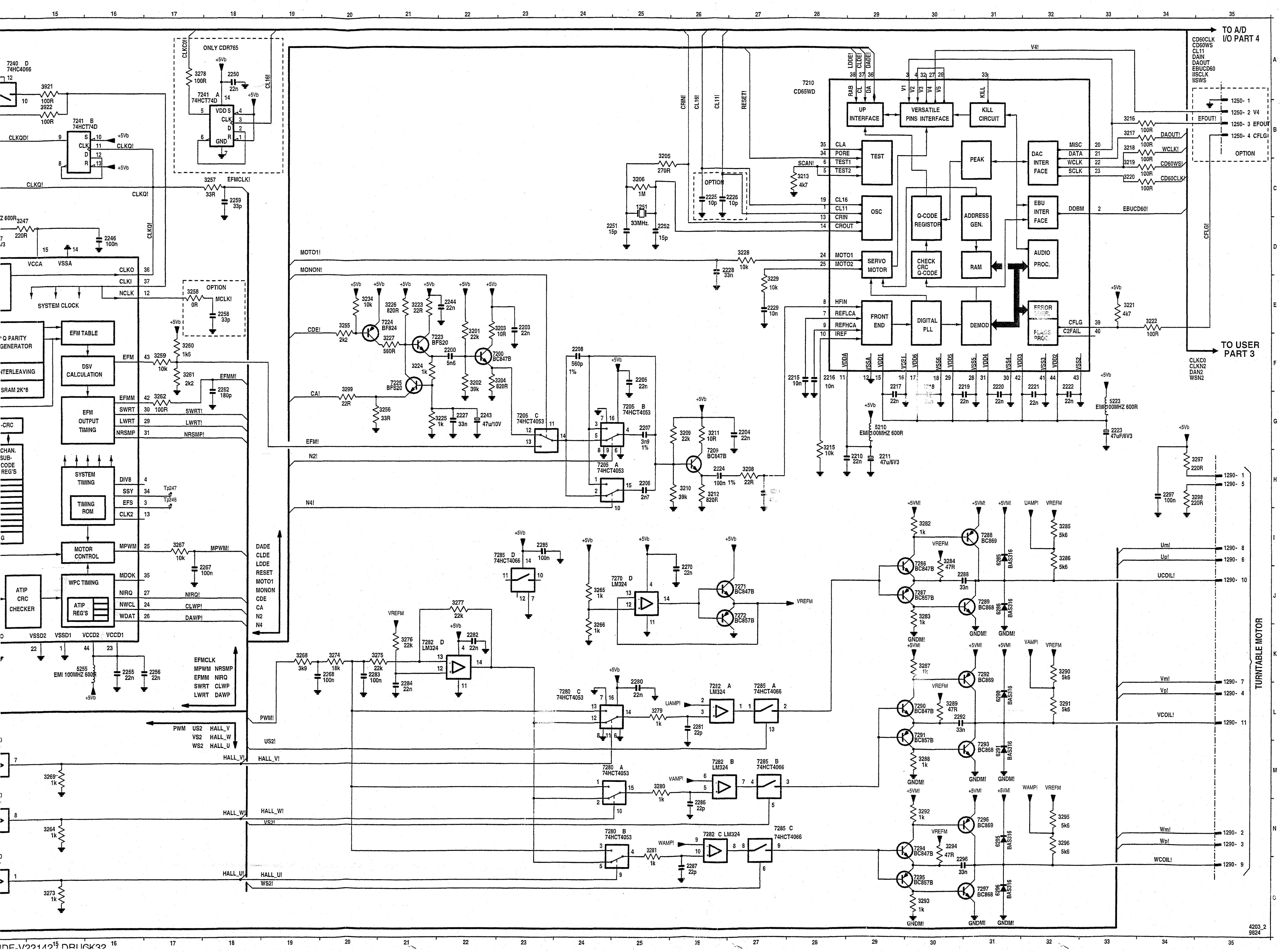

CONTROL BUS
2 ENCODING & DECODING PART
SPI BUS
3 USER PROCESSOR PART
CPU
7170
UPD784026GC-528
PROGRAMMABLE INTERRUPT CONTROLLER
UART
BAUD RATE GENERATOR
CLOCKED SERIAL INTERFACE
TIMER / COUNTER (16 BITS)
TIMER / COUNTER CHANNEL-1 (PS+8 BITS)
TIMER / COUNTER CHANNEL-2 (PS+8 BITS)
TIMER / COUNTER CHANNEL-3 (PS+8 BITS)
REAL TIME OUTPUT PORT (4 BITS X 2)
CONVERTER D/A
CONVERTER A/D
AN10-AN17
INTP5
SYSTEM CONTROL
A/D
PREPROCESSING
CONTROL FUNCTION
CONTROL PART
OSCILLATOR XTAL
DIVIDER
u PROCESSOR INTERFACE
OPTION
TRAY SWITCH
TRAY SENSE
TO TRAY MOTOR
TRAY+
TRAY-
NECMON!
TRS1N!
NOPEN!
NCLOSE!
COMCLK!
MISO!
SYSSYNC!
HALL_U!
HALL_V!
HALL_W!
RENSW!
US2!
VS2!
WS2!
N2!
RESET!
N4!
MONON!
FROM 3/7325-8 RSTLA! 6130
CA CDE CE_INT CLCE CLDE CLWP
DACE DADE DAWP EFMCLK EFMM HALL_U
HALL_V HALL_W LDCE LDDE LWRT MONON
MOTO1 MPWM N2 N4 NIRQ NRSMP
PP PWM RESEN RESET SWRT US2
VS2 WS2
ACK COMCLK
COMSYNC MISO
MOSI SYSSYNC
HMSW -> IC7170
CALF A2A A1A
RENSW FEOFS IC7170
MPWM DAWP 2
RESEN RESET 2
OTD DADS 7170
PWM LDDE CLDE LDCE 2
FS FS M
RADINT TO 7170-61
DALD DACL DADI EEDA EECL 7170
EFMCLK EFMM SWRT NRSMP LWRT 2
7186 BC847B
7182 BC857B
7183 2SB1132
7185 2SD1664
7192 BC857B
7193 2SB1132
7195 2SD1664
6185 BAS316
6186 BAS316
7150 A LM319
6155 BAT254
1177 32MHz
1143 16MHz
5170 EMI 100MHZ 600R
5176 EMI 100MHZ 600R
5179 EMI 100MHZ 600R
5130 EMI 100MHZ 600R
5132 EMI 100MHZ 600R
4203_1
9824

1101	C 1
1101	C 1
1101	D 1
1101	D 1
1101	F 1
1101	D 1
1101	D 1
1101	D 1
1101	F 1
1101	F 1
1101	F 1
1101	E 1
1101	E 1
1101	E 1
1101	G 1
1101	E 1
1101	H 1
1101	I 1
1101	I 1
1101	H 1
1101	J 1
1101	I 1
1102	K 1
1102	K 1
1102	K 1
1102	K 1
1102	K 1
1102	L 1
1102	L 1
1102	L 1
1102	L 1
1102	L 1
1102	M 1
1102	M 1
1102	M 1
1102	M 1
1102	M 1
1102	N 1
1102	N 1
1102	N 1
1102	N 1
1102	N 1
1102	O 1
1102	O 1
1103	J31
1103	K31
1104	L31
1104	N31
1135	F24
1143	J11
1177	H23
1199	D30
1199	D30
1199	C30
2100	B 4
2104	H 3
2105	H 7
2106	G 6
2107	G 5
2108	H 2
2109	H 3
2110	H 5
2111	H 4
2112	H 5
2113	J 4
2114	J 3
2115	J 2
2116	J 3
2117	J 4
2118	J 5
2119	K10
2120	E 8
2121	K11
2122	K11
2125	B 4
2126	D 4
2127	E 5
2128	E 5
2129	B 6
2130	G12
2131	G12
2132	G13
2134	F 9
2135	F10
2136	F10
2138	F10
2139	F 9
2140	G 9
2156	I15
2157	H15
2170	C18
2171	C17
2172	G14
2173	G15
2174	G15
2175	G16
2176	G17
2177	H23
2178	H24
2179	H24
2180	K30
2181	C19
2182	C20
2183	L29
2184	L30
2193	N30
2194	N30
2195	C20
3108	H 9
3109	I 8
3111	J 9
3112	K 9
3113	B 3
3114	C 4
3115	B 5
3116	C 3
3120	D 7
3121	D 8
3122	E 9
3123	D 9
3124	D 9
3125	D 3
3126	E 3
3127	E 4
3128	D 4
3129	D 4
3130	E 4
3131	D 6
3132	D 6
3133	E11
3134	F 8
3135	F 9
3136	F 9
3137	F 9
3138	E 8
3139	F 8
3140	E 9
3141	D 6
3142	J10
3143	J11
3144	H13
3149	H16
3150	C 9
3152	F15
3153	H17
3154	I16
3155	I15
3156	J15
3157	J15
3158	J15
3160	D18
3161	D19
3162	C19
3163	D17
3164	D20
3165	E23
3166	G16
3168	F23
3169	F23
3171	G23
3172	H23
3173	L19
3174	L19
3175	L19
3176	L20
3177	L21
3178	J30
3179	J30
3180	L27
3181	L27
3182	L27
3183	K28
3184	L28
3185	L28
3186	D22
3187	D23
3188	D23
3189	D23
3190	N27
3191	O27
3192	O27
3193	N28
3194	N28
3195	O28
3196	M30
3199	C23
3900	H 8
3901	I 9
3902	I 8
3903	C22
3904	K18
3905	J 2
3906	J 3
3908	G23
3910	I13
3911	I13
5104	G 6
5105	G 8
5106	H 5
5107	H 5
5108	I 5
5109	I 5
5110	I 5
5111	J 5
5130	F12
5132	G13
5170	C18
5176	G17
5179	G24
6120	D 8
6125	B 3
6130	J 8
6140	F 5
6141	F 5
6155	H15
6185	M27
6186	M27
7105	H 7
7120	D 8
7121	D 9
7125	C 3
7125	B 3
7130	G 9
7131	D 6
7132	D 6
7135	C 5
7135	B 5
7136	C 5
7150	H16
7160	C 8
7170	E17
7182	L28
7183	L29
7185	M29
7186	D23
7192	O28
7193	N29
7195	O29

2. ENCODING & DECODING PART

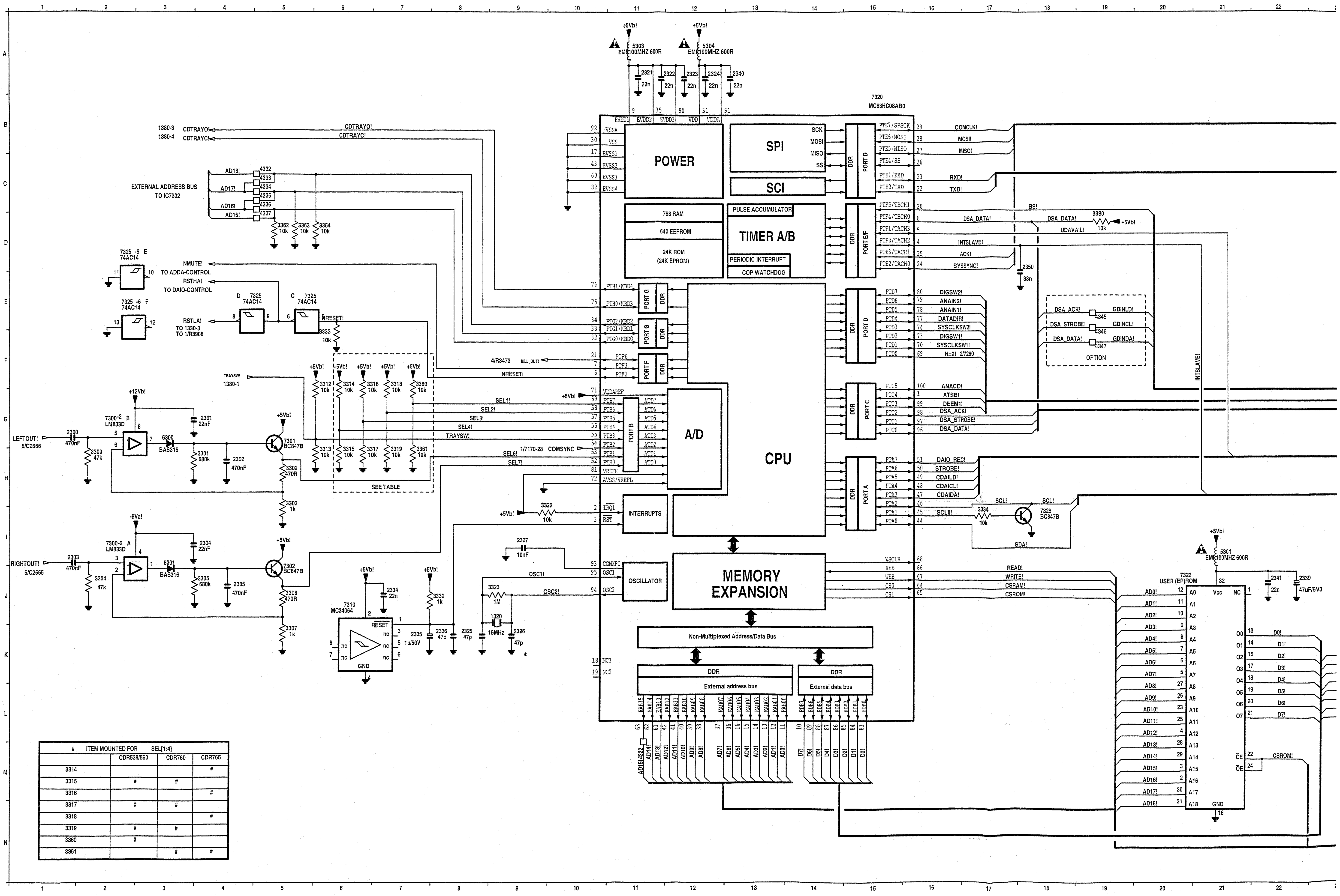


7245 TDA1371 CDCEP
PLL
SYSTEM CLOCK
INPUT INTERFACE (I²S)
P Q PARITY GENERATOR
EFM TABLE
DSV CALCULATION
SUBCODE R..W INPUT
INTERLEAVING
SRAM 2K*8
INPUT P Q
EFM OUTPUT TIMING
Q-CRC
MISC. REG'S
Q-CHAN. SUB-CODE REG'S
uCONTROLLER INTERFACE
Q-CHANNEL PROCESSING
SYSTEM TIMING
TIMING ROM
MOTOR CONTROL
WOBBLE FILTERING AND DEMODULATION
ATIP CRC CHECKER
WPC TIMING
ATIP REG'S
IREF WSI2 WSOT WSI1 CLIN DAIN SBCL SBDA NRST uCDA uCCL uCLD uINT HLD CSTS WOBL
RAT2 RAT1 RAT0 TI TO VSSD2 VSSD1 VCCD2 VCCD1
CLKO CLKI NCLK EFM EFMM SWRT LWRT NRSMP DIV8 SSY EFS CLK2 MPWM MDOK NIRQ NWCL WDAT
VCCA VSSA
# ONLY FOR CDR538/560/760
## ONLY FOR CDR765
ONLY CDR765
OPTION
7260 A ## 74HC4053
7260 B ## 74HC4053
7260 C ## 74HC4053
7240 A 74HC4066
7240 B 74HC4066
7240 C 74HC4066
7240 D 74HC4066
7241 A 74HCT74D
7241 B 74HCT74D
7230 A 74HC4066
7230 B 74HC4066
7230 C 74HC4066
7230 D 74HC4066
7235 A LM833
7235 B LM833
7150 B LM319
7224 BF824
7223 BFS20
7225 BFS20
7200 BC847B
7205 C 74HCT4053
7285 D 74HCT4066
7282 D LM324
7270 A LM324
7270 B LM324
7270 C LM324
7280 74HCT40
5245 EMI 100MHZ 600R
5255 EMI 100MHZ 600R
WSCDCEP! CLKCDCEP! DACDCEP! WCLK! WSN2! IISWS! CLKN2! IISCLK! DAN2! DAIN! N2!
CLKQD! CLKQ! EFMCLK! MCLK! EFMM! SWRT! LWRT! NRSMP! MPWM! NIRQ! CLWP! DAWP!
RESEN! DACE! CLCE! LDCE! CE_INT!
MOTO1! MONON! CDE! CA! EFM! N2! N4!
DADE CLDE LDDE RESET MOTO1 MONON CDE CA N2 N4
EFMCLK MPWM NRSMP EFMM NIRQ SWRT CLWP LWRT DAWP
N2 RESEN DACE CLCE LDCE CE_INT
PP! N2!
1 SERVO PART
SWRT CLWP NRSMP PP PWM WS2
CA DACE EFMCLK MONON US2 VS2
CE_INT DADE EFMM MOTO1 NIRQ HALL_W
CLCE DAWP LDCE N2 RESEN HALL_V MPWM
CLDE LWRT LDDE N4 RESET HALL_U CDE
PWM US2 HALL_V VS2 HALL_W WS2 HALL_U
Vm! Vp! Wm! Wp! Um! Up!
HALL_V! HALL_W! HALL_U! US2! VS2! WS2! PWM!
VREFM
+5Vb +4V +12Va +12Vb!


TO A/D
I/O PART 4
TO USER
PART 3
TURNTABLE MOTOR
ONLY CDR765
OPTION
7210
CD65WD
UP
INTERFACE
VERSATILE
PINS INTERFACE
KILL
CIRCUIT
TEST
OSC
Q-CODE
REGISTOR
ADDRESS
GEN.
PEAK
DAC
INTER
FACE
EBU
INTER
FACE
AUDIO
PROC.
SERVO
MOTOR
CHECK
CRC
Q-CODE
RAM
FRONT
END
DIGITAL
PLL
DEMOD
ERROR
CORR.
FLAGS
PROC.
EFM TABLE
DSV
CALCULATION
EFM
OUTPUT
TIMING
SYSTEM
TIMING
TIMING
ROM
MOTOR
CONTROL
WPC TIMING
ATIP
REG'S
ATIP
CRC
CHECKER
SYSTEM CLOCK
Q PARITY
GENERATOR
INTERLEAVING
SRAM 2K*8
CHAN.
SUB-
CODE
REG'S
7240 D
74HC4066
7241 A
74HCT74D
7241 B
74HCT74D
7205 A
74HCT4053
7205 B
74HCT4053
7205 C
74HCT4053
7224
BF824
7223
BFS20
7225
BFS20
7200
BC847B
7209
BC847B
7270 D
LM324
7271
BC847B
7272
BC857B
7282 D
LM324
7285 D
74HCT4066
7280 A
74HCT4053
7280 B
74HCT4053
7280 C
74HCT4053
7282 A
LM324
7282 B
LM324
7282 C LM324
7285 A
74HCT4066
7285 B
74HCT4066
7285 C
74HCT4066
7286
BC847B
7287
BC857B
7288
BC869
7289
BC868
7290
BC847B
7291
BC857B
7292
BC869
7293
BC868
7294
BC847B
7295
BC857B
7296
BC869
7297
BC868
BAS316
1251
33MHz.
5210
EMI 100MHZ 600R
5223
EMI 100MHZ 600R
5255
EMI 100MHZ 600R
1250- 1
1250- 2 V4
1250- 3 EFOUT
1250- 4 CFLG
1290- 1
1290- 5
1290- 8
1290- 6
1290- 10
1290- 7
1290- 4
1290- 11
1290- 2
1290- 3
1290- 9
CD60CLK
CD60WS
CL11
DAIN
DAOUT
EBUCD60
IISCLK
IISWS
CLKC0
CLKN2
DAN2
WSN2
MOTO1!
MONON!
CDE!
CA!
EFM!
N2!
N4!
VREFM
UAMP!
VAMP!
WAMP!
Um!
Up!
UCOIL!
Vm!
Vp!
VCOIL!
Wm!
Wp!
WCOIL!
+5VM!
GNDM!
PWM!
US2!
WS2!
HALL_V!
HALL_W!
HALL_U!
VS2!
PWM US2 HALL_V
VS2 HALL_W
WS2 HALL_U
EFMCLK
MPWM NRSMP
EFMM NIRQ
SWRT CLWP
LWRT DAWP
DADE
CLDE
LDDE
RESET
MOTO1
MONON
CDE
CA
N2
N4
CLKQD!
CLKQ!
EFMCLK!
MCLK!
EFMM!
SWRT!
LWRT!
NRSMP!
MPWM!
NIRQ!
CLWP!
DAWP!
SCAN!
V4!
EFOUT!
DAOUT!
WCLK!
CD60WS!
CD60CLK!
EBUCD60!
CFLG!
CRIN!
CL16!
CL11!
RESET!
MISC
DATA
WCLK
SCLK
DOBM
CFLG
C2FAIL
VCCA VSSA
VSSD2 VSSD1 VCCD2 VCCD1
CLKO CLKI NCLK
EFM EFMM SWRT LWRT NRSMP
DIV8 SSY EFS CLK2
MPWM MDOK NIRQ NWCL WDAT
Tp247
Tp248
+5Vb

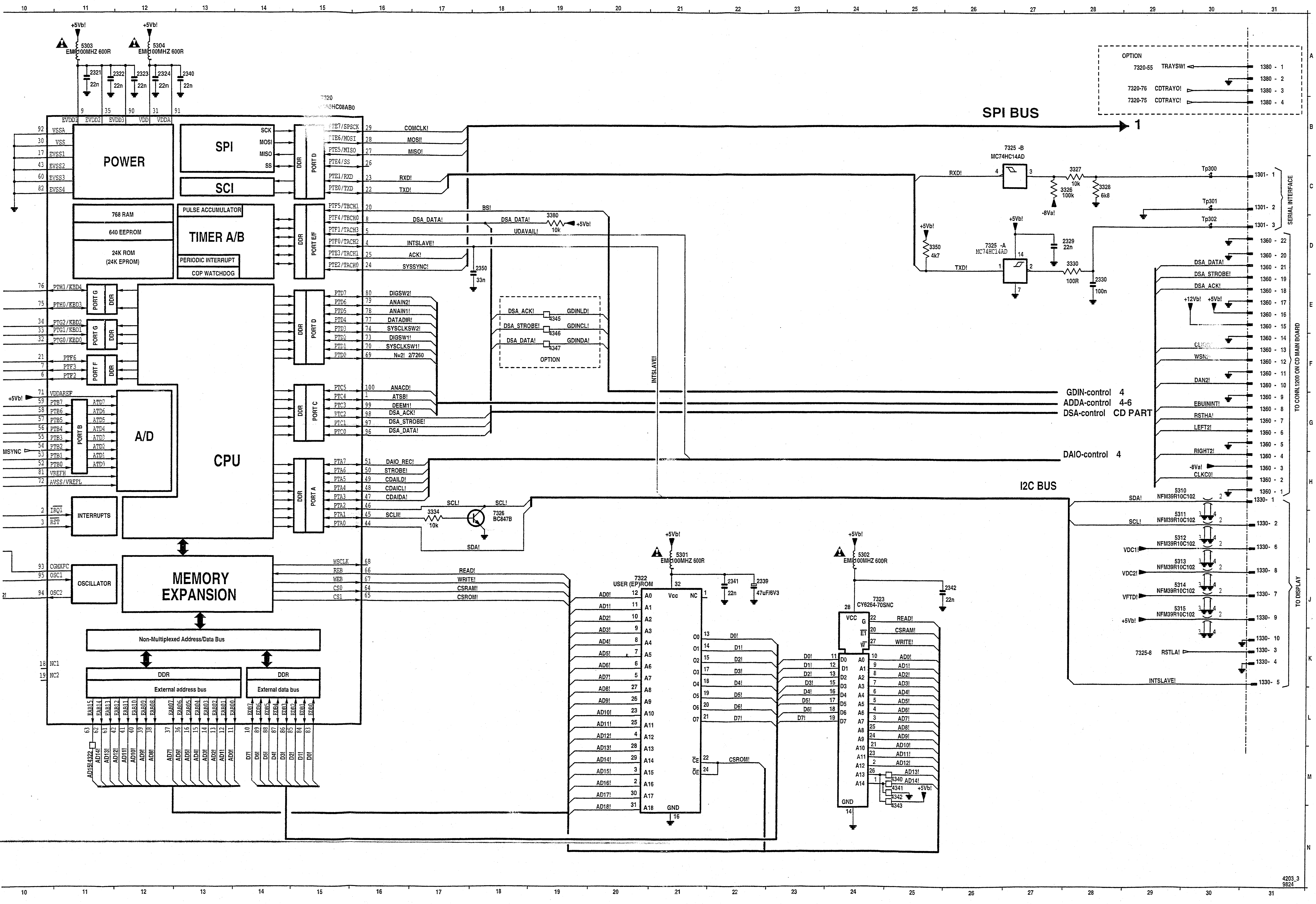
1250	B35
1250	B35
1250	B35
1250	B35
1251	C25
1290	H35
1290	N35
1290	N35
1290	L35
1290	H35
1290	I35
1290	L35
1290	I35
1290	O35
1290	J35
1290	L35
2200	F22
2203	E23
2204	G27
2205	F25
2206	H25
2207	G25
2208	F24
2210	H29
2211	H29
2214	H27
2215	F28
2216	F28
2217	F29
2218	F30
2219	F31
2220	F31
2221	F32
2222	F32
2223	G33
2224	H26
2225	C26
2226	C27
2227	G22
2228	D27
2229	E27
2230	I 6
2231	F 1
2232	G 2
2233	G 3
2234	H 2
2235	H 4
2236	H 3
2237	G 6
2238	G 7
2239	J 6
2240	H 9
2241	I 7
2242	J 4
2243	G22
2244	E22
2245	D14
2246	D16
2247	D14
2248	A12
2250	A18
2251	D25
2252	D25
2255	K16
2256	K17
2258	E18
2259	C18
2262	F18
2267	I18
2268	K20
2270	I26
2280	L25
2281	L26
2282	K22
2283	K21
2284	K21
2285	I23
2286	N26
2287	O26
2288	J31
2292	L31
2296	O31
2297	H34
3201	E22
3202	F22
3203	E23
3204	F23
3205	B25
3206	C25
3208	H27
3209	G26
3210	H26
3211	G26
3212	H26
3213	C28
3215	G28
3216	B33
3217	B33
3218	B33
3219	C33
3220	C33
3221	E33
3222	E34
3223	E21
3224	F21
3225	G22
3226	E21
3227	F21
3228	D27
3229	E27
3230	F 2
3231	G 2
3232	I 2
3233	G 4
3234	E20
3235	H 5
3236	I 5
3237	J 4
3238	J 4
3239	J 7
3240	J 8
3241	I 8
3242	H 9
3243	J 9
3244	H10
3245	D12
3246	D13
3247	D15
3248	D11
3249	D12
3250	E12
3251	F12
3252	F11
3253	G11
3254	E12
3255	E20
3256	G21
3257	C18
3258	E17
3259	F17
3260	F17
3261	F17
3262	G17
3263	K 3
3264	N15
3265	J24
3266	K24
3267	I17
3268	K19
3269	M15
3270	N13
3271	L13
3272	M13
3273	O15
3274	K20
3275	K21
3276	K21
3277	J22
3278	A17
3279	L25
3280	M25
3281	N25
3282	I30
3283	J30
3284	I30
3285	I32
3286	I32
3287	K30
3288	M30
3289	L30
3290	K32
3291	L32
3292	N30
3293	O30
3294	N30
3295	N32
3296	N32
3297	H35
3298	H35
3299	F20
3920	E12
3921	A15
3922	B15
3923	A13
3925	E 8
3926	D 8
3927	F 8
4200	D10
4201	E10
4202	F10
5210	G29
5223	G33
5245	C14
5255	K16
6285	I31
6286	J31
6290	L31
6291	M31
6295	N31
6296	O31
7150	I 9
7200	F22
7205	H24
7205	G25
7205	G23
7209	H26
7210	A28
7223	F21
7224	E21
7225	F21
7230	G 5
7230	I 6
7230	G 2
7230	I 2
7235	I 7
7235	H 3
7240	J 1
7240	A11
7240	A13
7240	A14
7241	A17
7241	B15
7245	D13
7260	C 9
7260	D 9
7260	F10
7270	N14
7270	L14
7270	M14
7270	J25
7271	J27
7272	J27
7280	M24
7280	N24
7280	L24
7282	L26
7282	M26
7282	N26
7282	K21
7285	L27
7285	M27
7285	N27
7285	I22
7286	I30
7287	J30
7288	I31
7289	J31
7290	L30
7291	L30
7292	K31
7293	M31
7294	N30
7295	O30
7296	N31
7297	O31

3. USER PROCESSOR PART



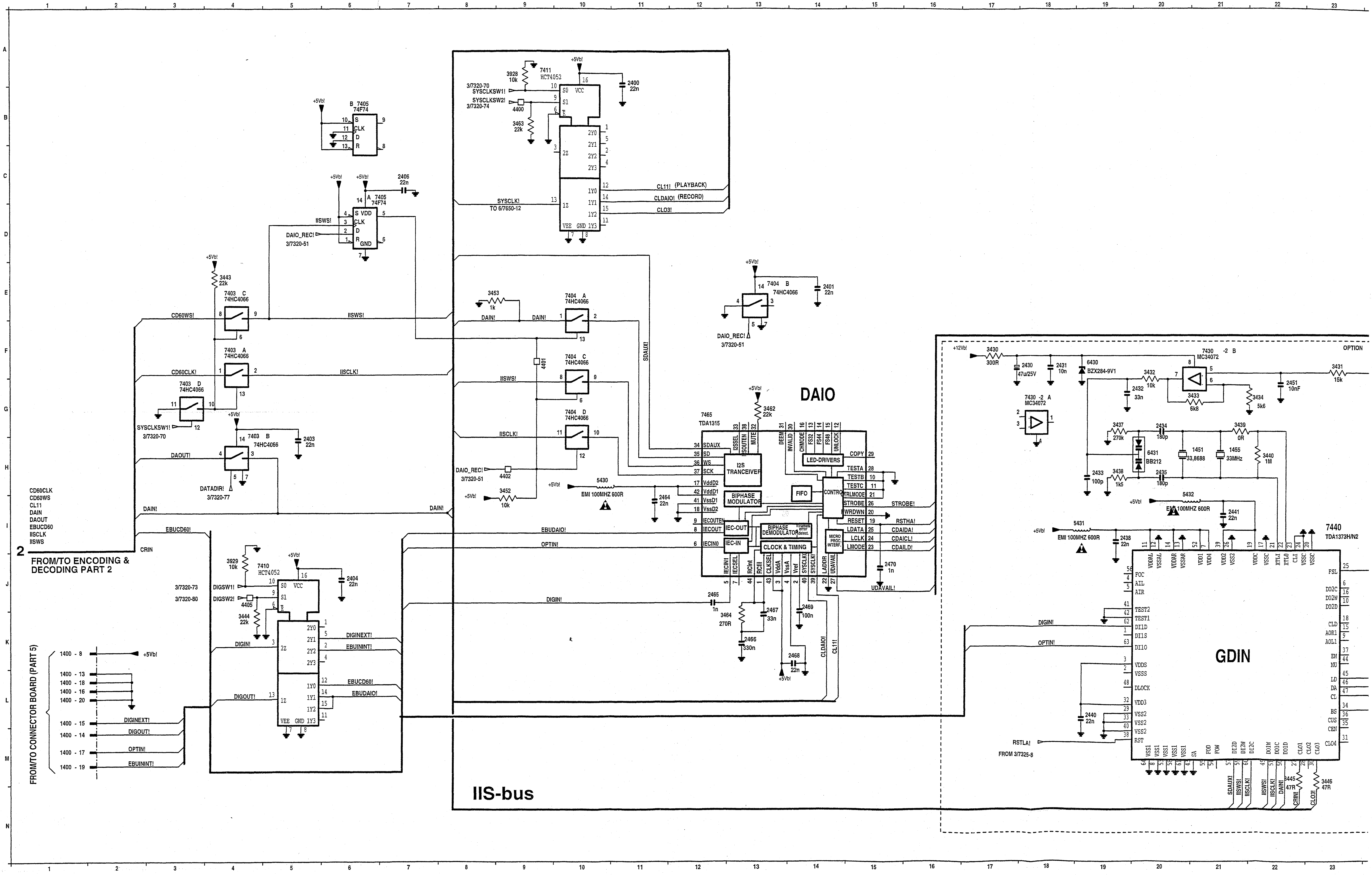
+5Vb!
5303
EMI 100MHZ 600R
5304
EMI 100MHZ 600R
2321 22n
2322 22n
2323 22n
2324 22n
2340 22n
7320
MC68HC08AB0
EVDD1
EVDD2
EVDD3
VDD
VDDA
VSSA
VSS
EVSS1
EVSS2
EVSS3
EVSS4
POWER
SPI
SCK
MOSI
MISO
SS
SCI
768 RAM
640 EEPROM
24K ROM
(24K EPROM)
PULSE ACCUMULATOR
TIMER A/B
PERIODIC INTERRUPT
COP WATCHDOG
DDR
PORT D
PORT E/F
PORT G
PORT F
PORT B
PORT C
PORT A
A/D
CPU
INTERRUPTS
OSCILLATOR
MEMORY
EXPANSION
Non-Multiplexed Address/Data Bus
External address bus
External data bus
PTE7/SPSCK
PTE6/MOSI
PTE5/MISO
PTE4/SS
PTE1/RXD
PTE0/TXD
PTF5/TBCH1
PTF4/TBCH0
PTF1/TACH3
PTF0/TACH2
PTE3/TACH1
PTE2/TACH0
COMCLK!
MOSI!
MISO!
RXD!
TXD!
BS!
DSA_DATA!
INTSLAVE!
ACK!
SYSSYNC!
3380 10k
UDAVAIL!
2350 33n
1380-3 CDTRAYO!
1380-4 CDTRAYC!
CDTRAYO!
CDTRAYC!
EXTERNAL ADDRESS BUS
TO IC7332
AD18!
AD17!
AD16!
AD15!
4332
4333
4334
4335
4336
4337
3362 10k
3363 10k
3364 10k
7325 -6 E
74AC14
NMUTE!
TO ADDA-CONTROL
RSTHA!
TO DAIO-CONTROL
7325 -6 F
74AC14
RSTLA!
TO 1330-3
TO 1/R3908
D 7325 74AC14
C 7325 74AC14
NRESET!
3333 10k
PTH1/KBD4
PTH0/KBD3
PTG2/KBD2
PTG1/KBD1
PTG0/KBD0
PTF6
PTF3
PTF2
4/R3473
KILL_OUT!
NRESET!
TRAYSW!
1380-1
3312 10k
3314 10k
3316 10k
3318 10k
3360 10k
3313 10k
3315 10k
3317 10k
3319 10k
3361 10k
SEE TABLE
SEL1!
SEL2!
SEL3!
SEL4!
TRAYSW!
1/7170-28 COMSYNC
SEL6!
SEL7!
VDDAREF
PTB7
PTB6
PTB5
PTB4
PTB3
PTB2
PTB1
PTB0
VREFH
AVSS/VREFL
ATD7
ATD6
ATD5
ATD4
ATD3
ATD2
ATD1
ATD0
+12Vb!
7300-2 B
LM833D
2301 22nF
LEFTOUT!
6/C2666
2300 470nF
3300 47k
6300 BAS316
3301 680k
2302 470nF
7301 BC847B
3302 470R
3303 1k
-8Va!
7300-2 A
LM833D
2304 22nF
RIGHTOUT!
6/C2665
2303 470nF
3304 47k
6301 BAS316
3305 680k
2305 470nF
7302 BC847B
3306 470R
3307 1k
3322 10k
IRQ1
RST
2327 10nF
CGMXFC
OSC1
OSC2
OSC1!
OSC2!
3323 1M
1320 16MHz
2326 47p
2325 47p
7310
MC34064
RESET
GND
2334 22n
2335 1u/50V
2336 47p
3332 1k
NC1
NC2
PTD7
PTD6
PTD5
PTD4
PTD3
PTD2
PTD1
PTD0
DIGSW2!
ANAIN2!
ANAIN1!
DATADIR!
SYSCLKSW2!
DIGSW1!
SYSCLKSW1!
N=2! 2/7260
DSA_ACK!
DSA_STROBE!
DSA_DATA!
GDINLD!
GDINCL!
GDINDA!
4345
4346
4347
OPTION
INTSLAVE!
PTC5
PTC4
PTC3
PTC2
PTC1
PTC0
ANACD!
ATSB!
DEEM1!
DSA_ACK!
DSA_STROBE!
DSA_DATA!
PTA7
PTA6
PTA5
PTA4
PTA3
PTA2
PTA1
PTA0
DAIO_REC!
STROBE!
CDAILD!
CDAICL!
CDAIDA!
SCLI!
SCL!
3334 10k
7326 BC847B
SDA!
WSCLK
REB
WEB
CS0
CS1
READ!
WRITE!
CSRAM!
CSROM!
EAB15
EAB14
EAB13
EAB12
EAB11
EAB10
EAB09
EAB08
EAB07
EAB06
EAB05
EAB04
EAB03
EAB02
EAB01
EAB00
EDB7
EDB6
EDB5
EDB4
EDB3
EDB2
EDB1
EDB0
AD15!4322
AD14!
AD13!
AD12!
AD11!
AD10!
AD9!
AD8!
AD7!
AD6!
AD5!
AD4!
AD3!
AD2!
AD1!
AD0!
D7!
D6!
D5!
D4!
D3!
D2!
D1!
D0!
5301
EMI 100MHZ 600R
7322
USER (EP)ROM
2341 22n
2339 47uF/6V3
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
A18
Vcc
NC
O0
O1
O2
O3
O4
O5
O6
O7
CE
OE
GND
AD16!
AD17!
AD18!

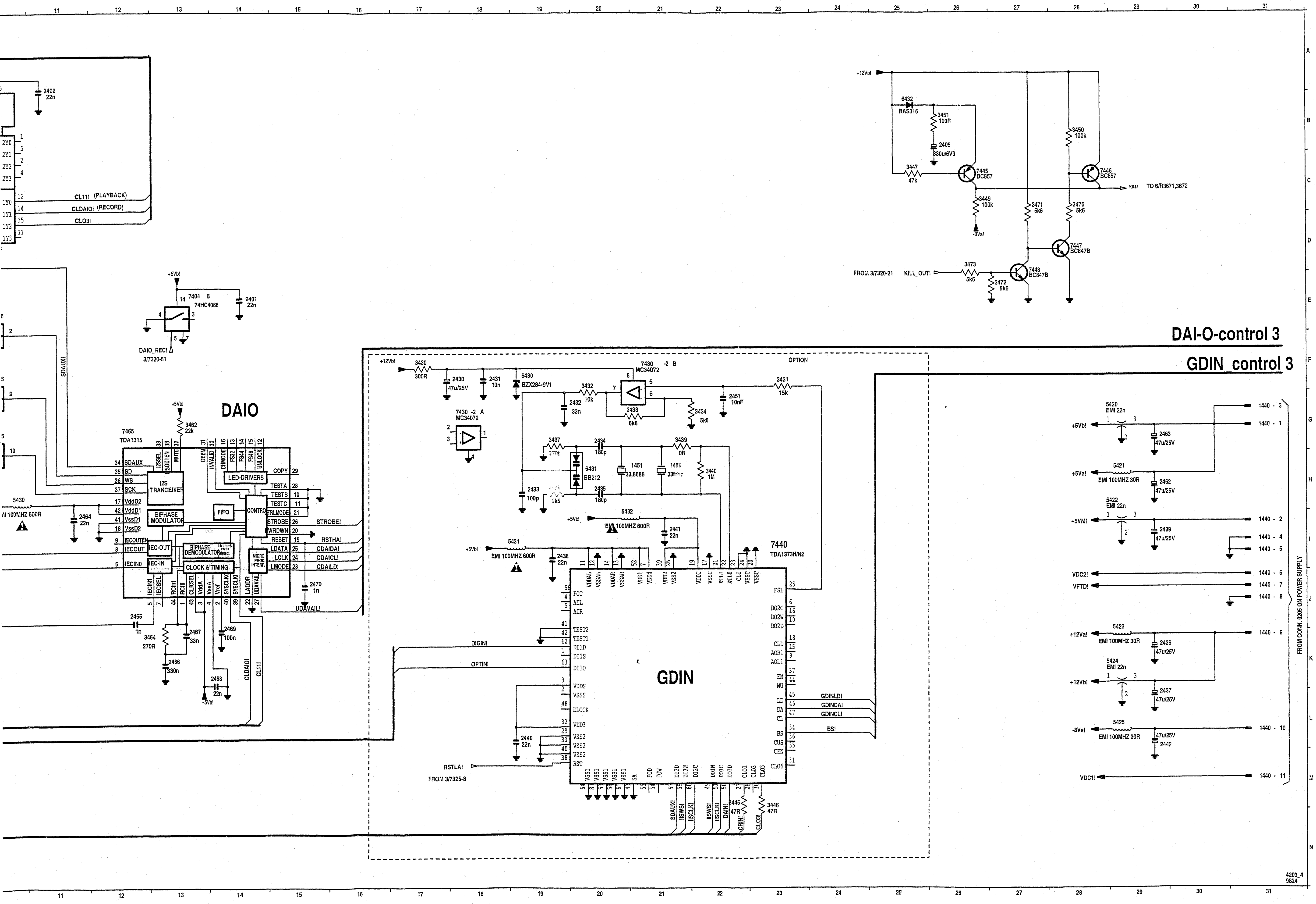
# ITEM MOUNTED FOR SEL[1:4]			
	CDR538/560	CDR760	CDR765
3314			#
3315	#	#	
3316			#
3317	#	#	
3318			#
3319	#	#	
3360	#		
3361		#	#


POWER
SPI
SCI
768 RAM
640 EEPROM
24K ROM (24K EPROM)
PULSE ACCUMULATOR
TIMER A/B
PERIODIC INTERRUPT
COP WATCHDOG
A/D
CPU
INTERRUPTS
OSCILLATOR
MEMORY EXPANSION
Non-Multiplexed Address/Data Bus
External address bus
External data bus
DDR
PORT D
PORT E/F
PORT C
PORT A
PORT B
PORT G
PORT F
7320
MC68HC08AB0
5303 EMI 100MHZ 600R
5304 EMI 100MHZ 600R
SPI BUS
I2C BUS
GDIN-control 4
ADDA-control 4-6
DSA-control CD PART
DAIO-control 4
OPTION
TRAYSW!
CDTRAYO!
CDTRAYC!
7325 -B MC74HC14AD
7325 -A MC74HC14AD
7326 BC847B
7322 USER (EP)ROM
7323 CY6264-70SNC
5301 EMI 100MHZ 600R
5302 EMI 100MHZ 600R
5310 NFM39R10C102
5311 NFM39R10C102
5312 NFM39R10C102
5313 NFM39R10C102
5314 NFM39R10C102
5315 NFM39R10C102
SERIAL INTERFACE
TO CONN.1200 ON CD MAIN BOARD
TO DISPLAY
MSYNC
INTSLAVE!
4203_3
9824

1301	C31
1301	C31
1301	D31
1320	J 9
1330	H31
1330	I31
1330	K31
1330	K31
1330	K31
1330	I31
1330	J31
1330	J31
1330	J31
1330	K31
1360	D31
1360	D31
1360	D31
1360	E31
1360	E31
1360	E31
1360	E31
1360	E31
1360	F31
1360	F31
1360	F31
1360	F31
1360	F31
1360	G31
1360	G31
1360	G31
1360	G31
1360	G31
1360	H31
1360	H31
1360	H31
1360	H31
1380	A31
1380	A31
1380	A31
1380	B31
2300	G 1
2301	G 4
2302	H 4
2303	I 1
2304	I 4
2305	J 4
2321	A11
2322	A12
2323	A12
2324	A12
2325	K 8
2326	K 9
2327	I 9
2329	D28
2330	E28
2334	J 7
2335	K 7
2336	K 8
2339	J22
2340	A13
2341	J22
2342	J26
2350	D18
3300	H 2
3301	H 4
3302	H 5
3303	H 5
3304	J 2
3305	J 4
3306	J 5
3307	K 5
3312	F 6
3313	H 6
3314	F 6
3315	H 6
3316	F 6
3317	H 6
3318	F 7
3319	H 7
3322	H 9
3323	J 9
3326	C28
3327	C28
3328	C28
3330	D28
3332	J 8
3333	E 6
3334	I17
3350	D25
3360	F 7
3361	H 7
3362	D 5
3363	D 5
3364	D 6
3380	D19
4322	M11
4332	C 5
4333	C 5
4334	C 5
4335	C 5
4336	C 5
4337	D 5
4340	M25
4341	M25
4342	M25
4343	M25
4345	E19
4346	E19
4347	F19
5301	I21
5302	I24
5303	A11
5304	A12
5310	H29
5311	I29
5312	I29
5313	I29
5314	J29
5315	J29
6300	G 3
6301	I 3
7300	I 2
7300	G 2
7301	G 5
7302	J 5
7310	J 6
7320	B15
7322	J20
7323	J25
7325	D26
7325	B27
7325	E 6
7325	E 5
7325	D 2
7325	E 2
7326	I18

4. DIGITAL IN/OUT PART


DAIO
GDIN
IIS-bus
OPTION
7465 TDA1315
7440 TDA1373H/N2
7411 HCT4052
7410 HCT4052
7405 74F74
7403 74HC4066
7404 74HC4066
7430 MC34072
2 FROM/TO ENCODING & DECODING PART 2
FROM/TO CONNECTOR BOARD (PART 5)
CD60CLK
CD60WS
CL11
DAIN
DAOUT
EBUCD60
IISCLK
IISWS
CRIN
SYSCLKSW1!
SYSCLKSW2!
SYSCLK! TO 6/7650-12
CL11! (PLAYBACK)
CLDAIO! (RECORD)
CLO3!
DAIO_REC!
DATADIR!
DIGSW1!
DIGSW2!
DIGINEXT!
EBUINNT!
EBUCD60!
EBUDAIO!
DIGIN!
DIGOUT!
OPTIN!
SDAUX!
STROBE!
RSTHA!
CDAIDA!
CDAICL!
CDAILD!
UDAVAIL!
RSTLA! FROM 3/7325-8
I2S TRANCEIVER
BIPHASE MODULATOR
BIPHASE DEMODULATOR
IEC-OUT
IEC-IN
CLOCK & TIMING
LED-DRIVERS
FIFO
MICRO PROC. INTERF.
EMI 100MHZ 600R
1451 33,8688
1455 33MHz
6430 BZX284-9V1
6431 BB212
+5Vb!
+12Vb!
1400 - 8
1400 - 13
1400 - 18
1400 - 16
1400 - 20
1400 - 15
1400 - 14
1400 - 17
1400 - 19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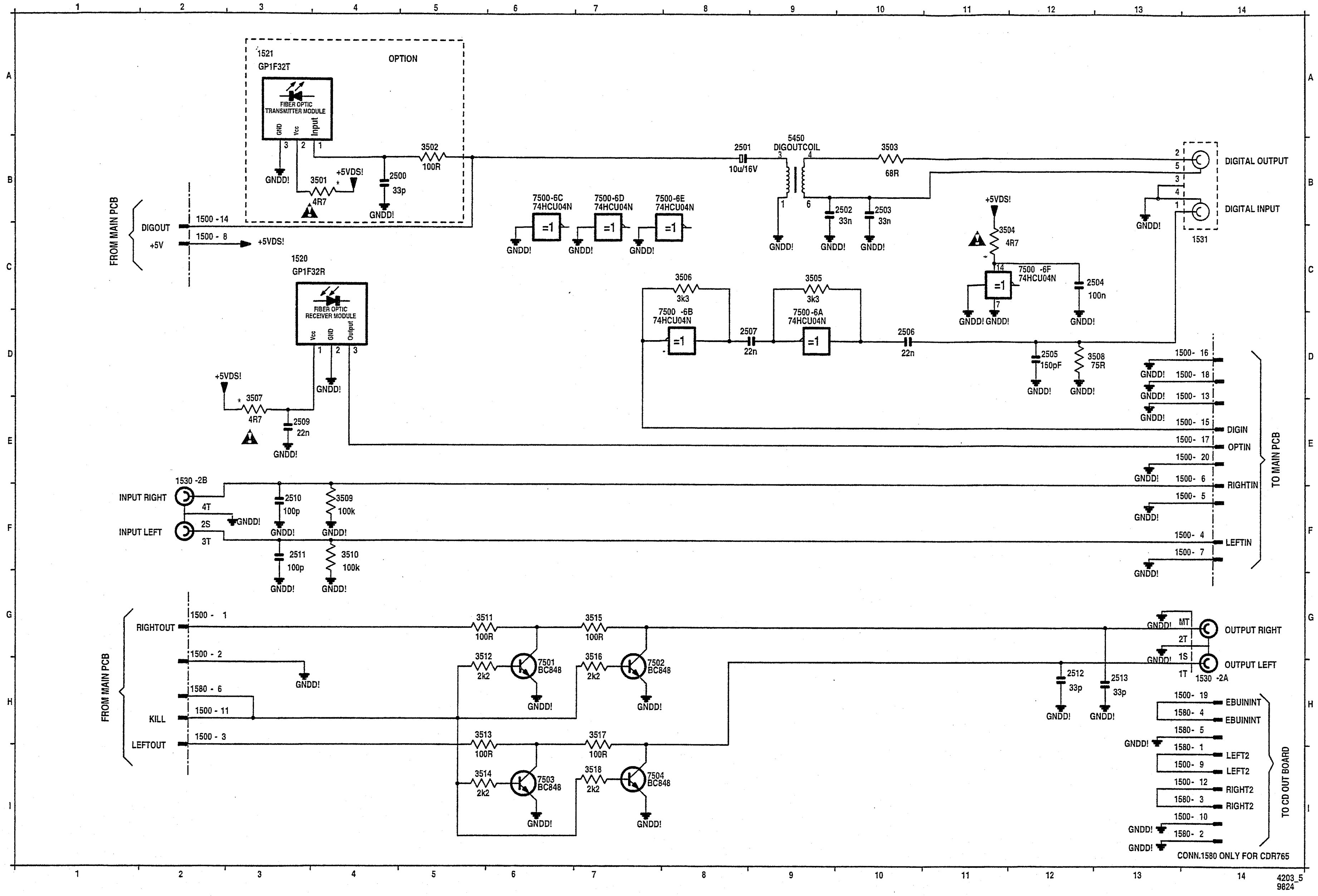
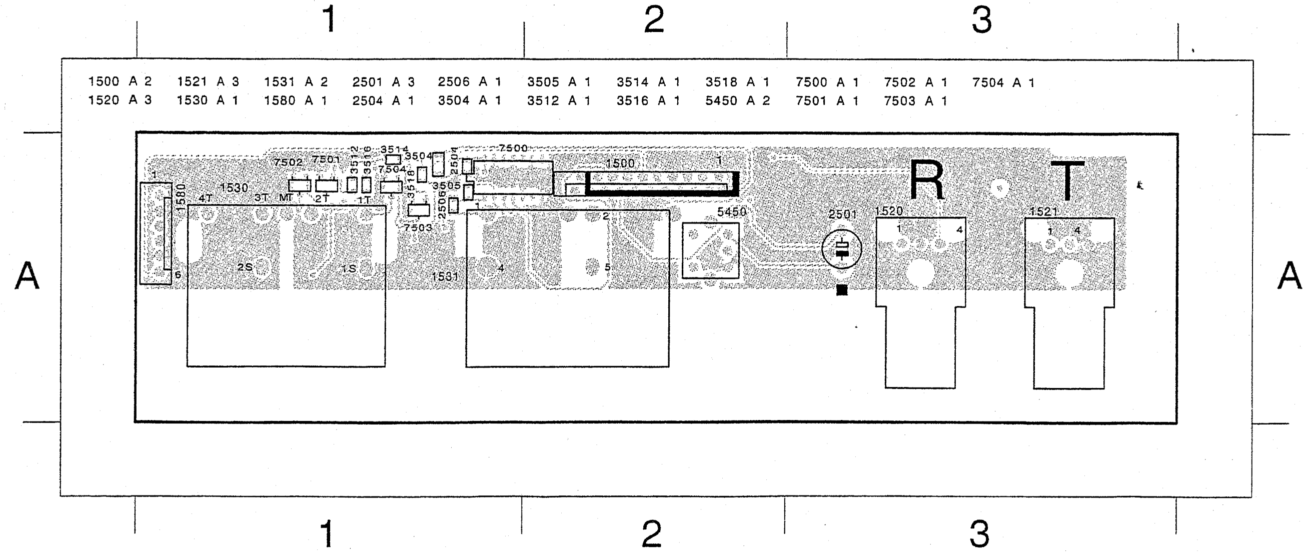
27
28
29
30
31
A
B
C
D
E
F
G
H
I
J
K
L
M
N
2400
22n
2Y0
2Y1
2Y2
2Y3
1Y0
1Y1
1Y2
1Y3
CL11! (PLAYBACK)
CLDAIO! (RECORD)
CLO3!
+5Vb!
7404 B
74HC4066
2401
22n
DAIO_REC!
3/7320-51
SDAUX!
5430
EMI 100MHZ 600R
2464
22n
DAIO
7465
TDA1315
3462
22k
SDAUX
SD
WS
SCK
VddD2
VddD1
VssD1
VssD2
IECOUTEN
IECOUT
IECIN0
I2SSEL
IISOUTEN
MUTE
DEEM
INVALID
CHMODE
FS32
FS44
FS48
UNLOCK
I2S TRANCEIVER
LED-DRIVERS
BIPHASE MODULATOR
FIFO
CONTROL
IEC-OUT
IEC-IN
BIPHASE DEMODULATOR
frame& error detect.
CLOCK & TIMING
MICRO PROC. INTERF.
COPY
TESTA
TESTB
TESTC
CTRLMODE
STROBE
PWRDWN
RESET
LDATA
LCLK
LMODE
IECIN1
IECSEL
RCint
RCfil
CLKSEL
VddA
VssA
Vref
SYSCLKO
SYSCLKI
LADDR
UDAVAIL
STROBE!
RSTHA!
CDAIDA!
CDAICL!
CDAILD!
UDAVAIL!
2470
1n
2465
1n
3464
270R
2467
33n
2466
330n
2469
100n
2468
22n
CLDAIO!
CL11!
+12Vb!
3430
300R
2430
47u/25V
2431
10n
6430
BZX284-9V1
7430 -2 B
MC34072
3432
10k
2432
33n
3433
6k8
3434
5k6
2451
10nF
3431
15k
OPTION
7430 -2 A
MC34072
3437
270k
2434
180p
3439
0R
6431
BB212
1451
33,8688
1455
33MHz
3440
1M
2433
100p
1k5
2435
180p
5432
EMI 100MHZ 600R
2441
22n
5431
EMI 100MHZ 600R
2438
22n
7440
TDA1373H/N2
VDDAL
VSSAL
VDDAR
VSSAR
VDD1
VDD4
VDD2
VSS2
VDDC
VSSC
XTLI
XTLO
CLI
VSSC
VSSC
FOC
AIL
AIR
TEST2
TEST1
DI1D
DI1S
DI1O
VDDS
VSSS
DLOCK
VDD3
VSS2
VSS2
VSS2
RST
FSL
DO2C
DO2W
DO2D
CLD
AOR1
AOL1
EM
MU
LD
DA
CL
BS
CUS
CEN
CLO4
VSS1
SA
FOD
FOW
DI2D
DI2W
DI2C
DO1W
DO1C
DO1D
CLO1
CLO2
CLO3
GDIN
DIGIN!
OPTIN!
2440
22n
RSTLA!
FROM 3/7325-8
GDINLD!
GDINDA!
GDINCL!
BS!
SDAUX!
IISWS!
IISCLK!
IISWS!
IISCLK!
DAIN!
CRIN!
CLO3!
3445
47R
3446
47R
6432
BAS316
3451
100R
2405
330u/6V3
3447
47k
7445
BC857
3449
100k
-8Va!
3450
100k
7446
BC857
KILL!
TO 6/R3671,3672
3471
5k6
3470
5k6
7447
BC847B
FROM 3/7320-21
KILL_OUT!
3473
5k6
3472
5k6
7448
BC847B
DAI-O-control 3
GDIN control 3
5420
EMI 22n
+5Vb!
2463
47u/25V
5421
+5Va!
EMI 100MHZ 30R
2462
47u/25V
5422
EMI 22n
+5VM!
2439
47u/25V
VDC2!
VFTD!
5423
+12Va!
EMI 100MHZ 30R
2436
47u/25V
5424
EMI 22n
+12Vb!
2437
47u/25V
5425
-8Va!
EMI 100MHZ 30R
47u/25V
2442
VDC1!
1440 - 3
1440 - 1
1440 - 2
1440 - 4
1440 - 5
1440 - 6
1440 - 7
1440 - 8
1440 - 9
1440 - 10
1440 - 11
FROM CONN. 0205 ON POWER SUPPLY
4203_4
9824

1400	K 1
1400	L 1
1400	M 1
1400	L 1
1400	L 1
1400	M 1
1400	L 1
1400	M 1
1400	L 1
1440	G31
1440	I31
1440	G31
1440	I31
1440	I31
1440	J31
1440	J31
1440	J31
1440	K31
1440	L31
1440	M31
1451	H21
1455	H21
2400	A11
2401	E14
2403	H 5
2404	J 6
2405	B26
2406	C 7
2430	F18
2431	F18
2432	G20
2433	H19
2434	G20
2435	H20
2436	K29
2437	L29
2438	I19
2439	I29
2440	L19
2441	I21
2442	L29
2451	G22
2462	H29
2463	G29
2464	I11
2465	J12
2466	K13
2467	K13
2468	K14
2469	J14
2470	J15
3430	F17
3431	F23
3432	F20
3433	G21
3434	G22
3437	G19
3438	H19
3439	G21
3440	H22
3443	E 4
3444	K 4
3445	M22
3446	M23
3447	C25
3449	C26
3450	B28
3451	B26
3452	H 9
3453	E 8
3462	G13
3463	B 9
3464	K13
3470	C28
3471	C27
3472	E27
3473	D26
3928	A 9
3929	J 4
4400	B 9
4401	F 9
4402	H 9
4405	J 4
5420	G28
5421	H29
5422	H28
5423	J29
5424	K28
5425	L29
5430	H10
5431	I19
5432	I20
6430	F19
6431	H20
6432	B25
7403	F 4
7403	H 4
7403	E 4
7403	G 3
7404	E10
7404	E13
7404	F10
7404	G10
7405	C 7
7405	B 6
7410	J 4
7411	A 9
7430	G18
7430	F21
7440	I23
7445	C26
7446	C28
7447	D28
7448	E27
7465	G12

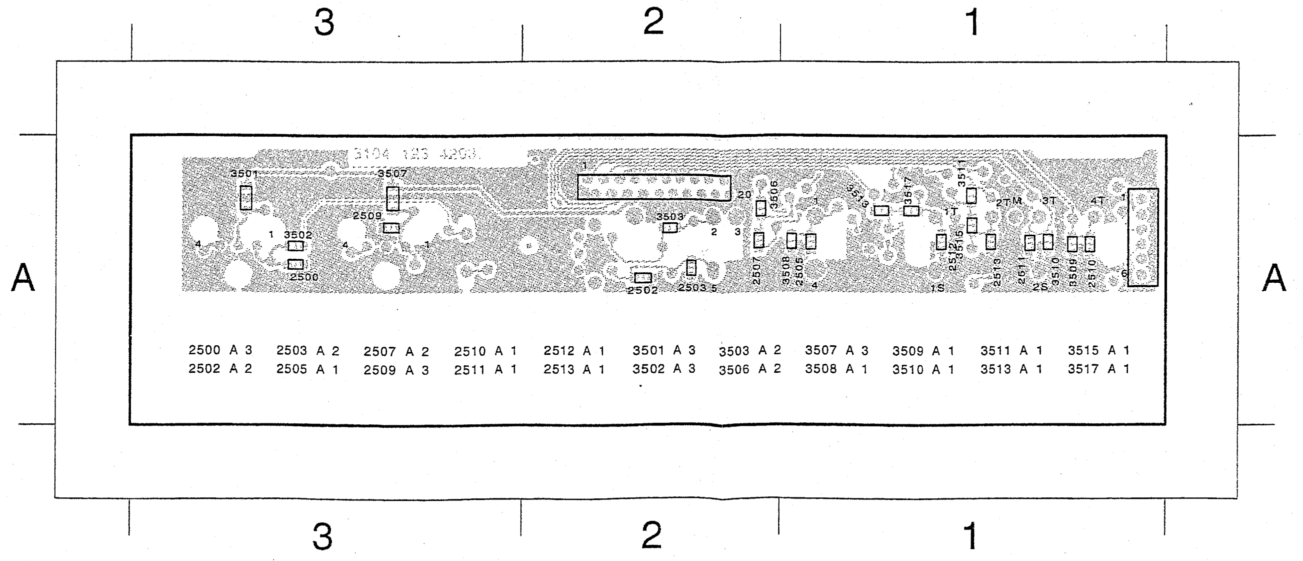
5 CONNECTOR PART


1521
GP1F32T
OPTION
FIBER OPTIC TRANSMITTER MODULE
GND
Vcc
Input
GNDD!
3501
4R7
+5VDS!
2500
33p
3502
100R
FROM MAIN PCB
DIGOUT
+5V
1500 -14
1500 - 8
+5VDS!
1520
GP1F32R
FIBER OPTIC RECEIVER MODULE
Vcc
GND
Output
+5VDS!
3507
4R7
2509
22n
GNDD!
7500-6C
74HCU04N
7500-6D
74HCU04N
7500-6E
74HCU04N
=1
GNDD!
2501
10u/16V
5450
DIGOUTCOIL
3503
68R
2502
33n
2503
33n
3506
3k3
7500 -6B
74HCU04N
2507
22n
3505
3k3
7500 -6A
74HCU04N
2506
22n
+5VDS!
3504
4R7
7500 -6F
74HCU04N
2504
100n
2505
150pF
3508
75R
DIGITAL OUTPUT
DIGITAL INPUT
1531
1500- 16
1500- 18
1500- 13
1500- 15
DIGIN
1500- 17
OPTIN
1500- 20
1500- 6
RIGHTIN
1500- 5
1500- 4
LEFTIN
1500- 7
TO MAIN PCB
1530 -2B
INPUT RIGHT
INPUT LEFT
4T
2S
3T
2510
100p
3509
100k
2511
100p
3510
100k
RIGHTOUT
1500 - 1
1500 - 2
1580 - 6
KILL
1500 - 11
LEFTOUT
1500 - 3
3511
100R
3515
100R
3512
2k2
7501
BC848
3516
2k2
7502
BC848
3513
100R
3517
100R
3514
2k2
7503
BC848
3518
2k2
7504
BC848
2512
33p
2513
33p
MT
2T
1S
1T
1530 -2A
OUTPUT RIGHT
OUTPUT LEFT
1500- 19
EBUINint
1580- 4
EBUINint
1580- 5
1580- 1
LEFT2
1500- 9
LEFT2
1500- 12
RIGHT2
1580- 3
RIGHT2
1500- 10
1580- 2
TO CD OUT BOARD
CONN.1580 ONLY FOR CDR765
4203_5
9824

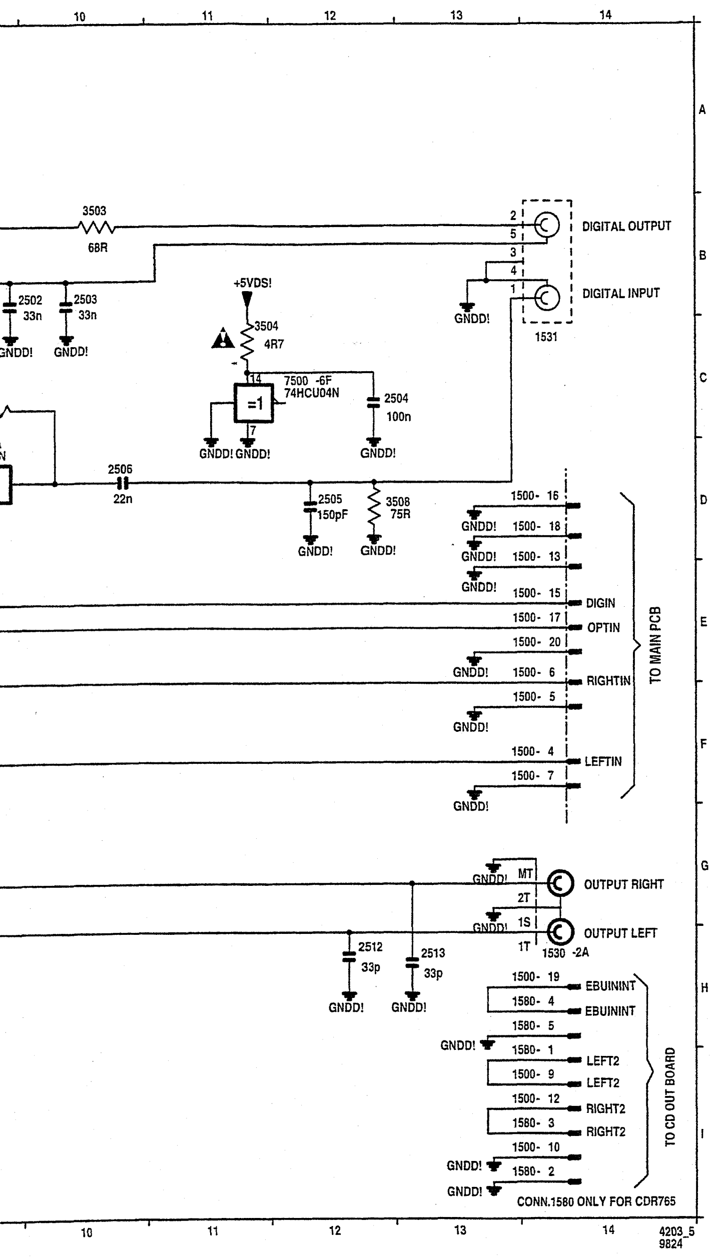
1500	G 2
1500	G 2
1500	H 2
1500	F13
1500	F13
1500	E13
1500	F13
1500	C 2
1500	I13
1500	I13
1500	H 2
1500	I13
1500	D13
1500	B 2
1500	E13
1500	D13
1500	E13
1500	D13
1500	H13
1500	E13
1520	C 3
1521	A 3
1530	H14
1530	E 2
1531	C14
1580	I13
1580	I13
1580	I13
1580	H13
1580	H13
2500	B 5
2501	B 9
2502	B10
2503	B10
2504	C13
2505	D12
2506	D10
2507	D 9
2509	E 3
2510	F 3
2511	F 3
2512	H12
2513	H13
3501	B 4
3502	B 5
3503	B10
3504	C12
3505	C 9
3506	C 8
3507	E 3
3508	D13
3509	F 4
3510	F 4
3511	G 5
3512	H 5
3513	H 5
3514	I 5
3515	G 7
3516	H 7
3517	H 7
3518	I 7
5450	B 9
7500	D 9
7500	D 8
7500	B 6
7500	B 7
7500	B 7
7500	C12
7501	H 6
7502	H 7
7503	I 6
7504	I 7


1
2
3
A
1580
1530
4T
3T
MT
2T
1T
7502
7501
3512
3516
3514
3504
7504
3518
2504
2506
3505
7503
7500
1500
5450
2501
1520
1521
R
T
2S
1S
1531

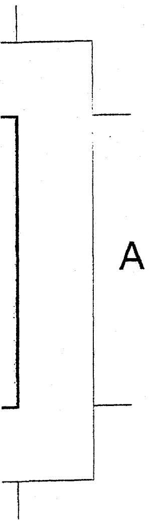
1500 A 2	1521 A 3	1531 A 2	2501 A 3	2506 A 1	3505 A 1	3514 A 1	3518 A 1	7500 A 1	7502 A 1	7504 A 1
1520 A 3	1530 A 1	1580 A 1	2504 A 1	3504 A 1	3512 A 1	3516 A 1	5450 A 2	7501 A 1	7503 A 1	

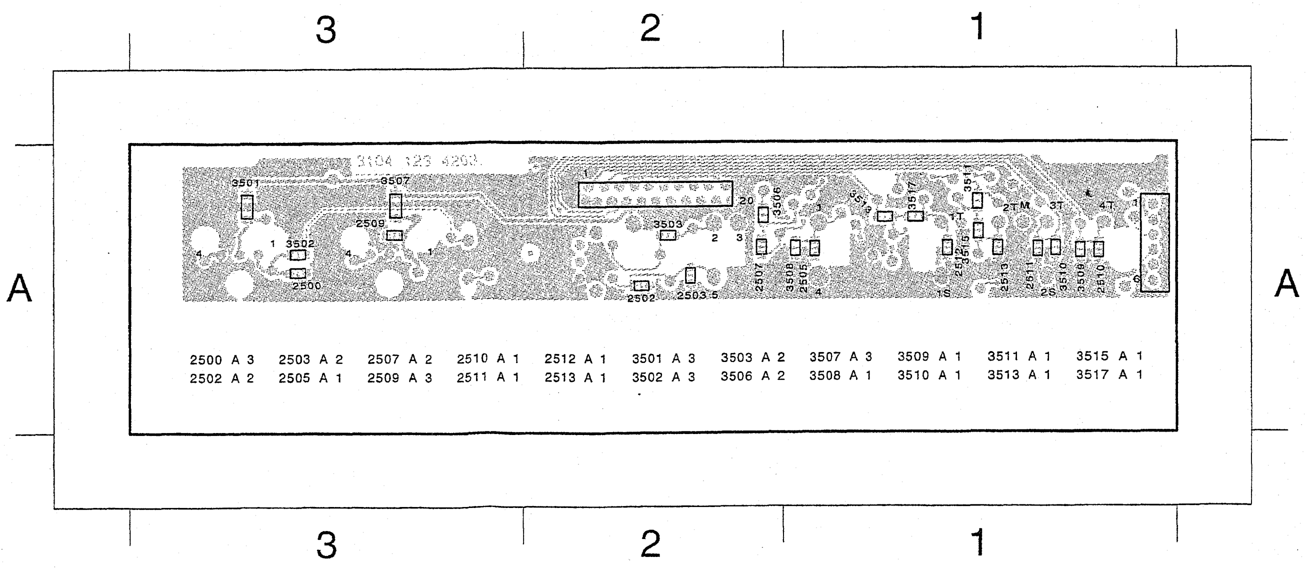

3
2
1
A
3501
3507
3502
2500
2509
3503
2502
2503
2507
3508
2505
2512
3515
2513
2511
3510
3509
2510
1S
2S
2T
MT
3T
4T

2500 A 3	2503 A 2	2507 A 2	2510 A 1	2512 A 1	3501 A 3	3503 A 2	3507 A 3	3509 A 1	3511 A 1	3515 A 1
2502 A 2	2505 A 1	2509 A 3	2511 A 1	2513 A 1	3502 A 3	3506 A 2	3508 A 1	3510 A 1	3513 A 1	3517 A 1


10
11
12
13
14
A
B
C
D
E
F
G
H
I
3503
68R
2502
33n
2503
33n
GNDD!
GNDD!
+5VDS!
3504
4R7
14
7500 -6F
74HCU04N
=1
7
GNDD! GNDD!
2504
100n
GNDD!
2
5
3
4
1
DIGITAL OUTPUT
DIGITAL INPUT
GNDD!
1531
2506
22n
2505
150pF
GNDD!
3508
75R
GNDD!
1500- 16
GNDD!
1500- 18
GNDD!
1500- 13
GNDD!
1500- 15
DIGIN
1500- 17
OPTIN
1500- 20
GNDD!
1500- 6
RIGHTIN
1500- 5
GNDD!
1500- 4
LEFTIN
1500- 7
GNDD!
TO MAIN PCB
GNDD!
MT
OUTPUT RIGHT
2T
GNDD!
1S
OUTPUT LEFT
1T
1530 -2A
2512
33p
2513
33p
GNDD!
GNDD!
1500- 19
EBUININT
1580- 4
EBUININT
1580- 5
GNDD!
1580- 1
LEFT2
1500- 9
LEFT2
1500- 12
RIGHT2
1580- 3
RIGHT2
1500- 10
GNDD!
1580- 2
GNDD!
CONN.1580 ONLY FOR CDR765
TO CD OUT BOARD
4203_5
9824

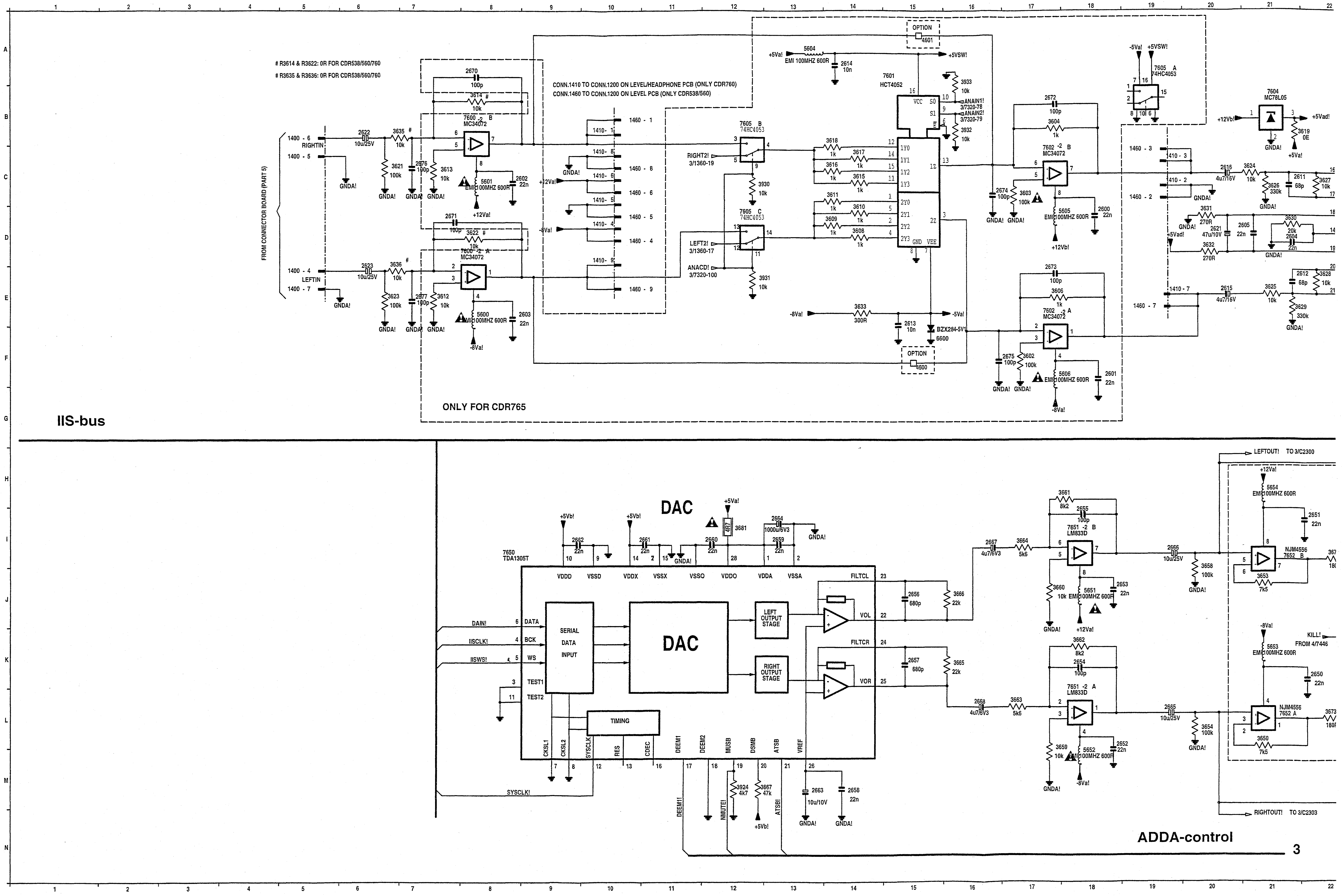
1500	G 2
1500	G 2
1500	H 2
1500	F13
1500	F13
1500	E13
1500	F13
1500	C 2
1500	I13
1500	I13
1500	H 2
1500	I13
1500	D13
1500	B 2
1500	E13
1500	D13
1500	E13
1500	D13
1500	H13
1500	E13
1520	C 3
1521	A 3
1530	H14
1530	E 2
1531	C14
1580	I13
1580	I13
1580	I13
1580	H13
1580	H13
2500	B 5
2501	B 9
2502	B10
2503	B10
2504	C13
2505	D12
2506	D10
2507	D 9
2509	E 3
2510	F 3
2511	F 3
2512	H12
2513	H13
3501	B 4
3502	B 5
3503	B10
3504	C12
3505	C 9
3506	C 8
3507	E 3
3508	D13
3509	F 4
3510	F 4
3511	G 5
3512	H 5
3513	H 5
3514	I 5
3515	G 7
3516	H 7
3517	H 7
3518	I 7
5450	B 9
7500	D 9
7500	D 8
7500	B 6
7500	B 7
7500	B 7
7500	C12
7501	H 6
7502	H 7
7503	I 6
7504	I 7



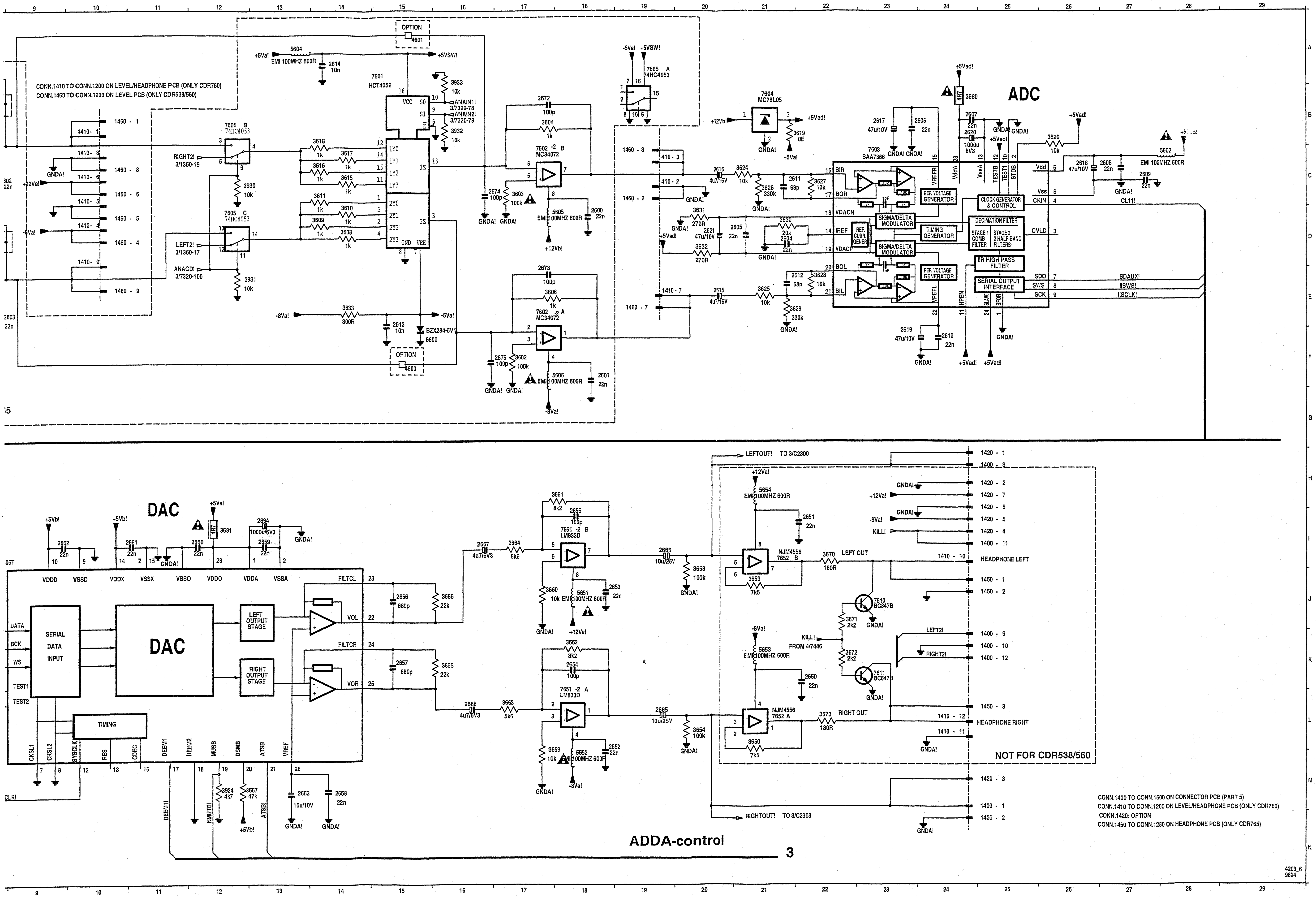

3
2
1
A
A
3104 123 4203
3501
3507
2509
3502
2500
3503
2502
2503
2507
3508
2505
3506
3505
3517
3511
2512
3515
2513
2511
3510
3509
2510
2TM
3T
4T
1S
2S

2500 A 3	2503 A 2	2507 A 2	2510 A 1	2512 A 1	3501 A 3	3503 A 2	3507 A 3	3509 A 1	3511 A 1	3515 A 1
2502 A 2	2505 A 1	2509 A 3	2511 A 1	2513 A 1	3502 A 3	3506 A 2	3508 A 1	3510 A 1	3513 A 1	3517 A 1

6. ANALOG IN/OUT PART



# R3614 & R3622: 0R FOR CDR538/560/760
# R3635 & R3636: 0R FOR CDR538/560/760
CONN.1410 TO CONN.1200 ON LEVEL/HEADPHONE PCB (ONLY CDR760)
CONN.1460 TO CONN.1200 ON LEVEL PCB (ONLY CDR538/560)
FROM CONNECTOR BOARD (PART 5)
RIGHTIN
LEFTIN
7600 -2 B MC34072
7600 -2 A MC34072
7605 B 74HC4053
7605 C 74HC4053
7605 A 74HC4053
7601 HCT4052
7602 -2 B MC34072
7602 -2 A MC34072
7604 MC78L05
OPTION 4601
OPTION 4600
EMI 100MHZ 600R
BZX284-5V1 6600
RIGHT2! 3/1360-19
LEFT2! 3/1360-17
ANACD! 3/7320-100
ANAIN1! 3/7320-78
ANAIN2! 3/7320-79
+5Va! +5VSW! -5Va! -8Va! +12Va! +12Vb! +5Vad! GNDA!
ONLY FOR CDR765
IIS-bus
DAC
7650 TDA1305T
VDDD VSSD VDDX VSSX VSSO VDDO VDDA VSSA FILTCL FILTCR
DATA BCK WS TEST1 TEST2
SERIAL DATA INPUT
DAC
TIMING
LEFT OUTPUT STAGE
RIGHT OUTPUT STAGE
VOL VOR
CKSL1 CKSL2 SYSCLK RES CDEC DEEM1 DEEM2 MUSB DSMB ATSB VREF
DAIN! IISCLK! IISWS! SYSCLK!
DEEM1! NMUTE! ATSB!
7651 -2 B LM833D
7651 -2 A LM833D
NJM4556 7652 B
NJM4556 7652 A
LEFTOUT! TO 3/C2300
RIGHTOUT! TO 3/C2303
KILL! FROM 4/7446
ADDA-control
3


ADC
DAC
ADDA-control
3
CONN.1410 TO CONN.1200 ON LEVEL/HEADPHONE PCB (ONLY CDR760)
CONN.1460 TO CONN.1200 ON LEVEL PCB (ONLY CDR538/560)
OPTION
4601
4600
5604
EMI 100MHZ 600R
2614
10n
+5Va!
+5VSW!
-5Va!
-8Va!
+12Va!
+12Vb!
+5Vad!
+5Vb!
GNDA!
7601
HCT4052
7605 A
74HC4053
7605 B
74HC4053
7605 C
74HC4053
3933
10k
3932
10k
3930
10k
3931
10k
ANAIN1!
3/7320-78
ANAIN2!
3/7320-79
RIGHT2!
3/1360-19
LEFT2!
3/1360-17
ANACD!
3/7320-100
3618
3617
3616
3615
3611
3610
3609
3608
1k
2672
100p
3604
7602 -2 B
MC34072
2673
3606
7602 -2 A
MC34072
2674
100p
3603
100k
2675
3602
5605
5606
EMI 100MHZ 600R
2600
22n
2601
22n
3633
300R
2613
10n
BZX284-5V1
6600
1460 - 1
1460 - 8
1460 - 6
1460 - 5
1460 - 4
1460 - 9
1460 - 3
1460 - 2
1460 - 7
1410 - 1
1410 - 8
1410 - 6
1410 - 5
1410 - 4
1410 - 9
1410 - 3
1410 - 2
1410 - 7
2602
22n
2603
22n
7604
MC78L05
3619
0E
2616
4u7/16V
3624
10k
3626
330k
2611
68p
3627
10k
3631
270R
2621
47u/10V
2605
22n
3630
20k
2604
22n
3632
270R
2612
68p
3628
10k
2615
4u7/16V
3625
10k
3629
330k
2617
47u/10V
2606
22n
7603
SAA7366
3680
4R7
2607
22n
2620
1000u
6V3
3620
10k
2618
47u/10V
2608
22n
2609
22n
5602
EMI 100MHZ 600R
2619
47u/10V
2610
22n
BIR
BOR
VDACN
IREF
VDACP
BOL
BIL
VREFH
VddA
VssA
TESTB
TEST1
STDB
VREFL
HPEN
SLAVE
SFOR
Vdd
Vss
CKIN
OVLD
SDO
SWS
SCK
REF. VOLTAGE GENERATOR
SIGMA/DELTA MODULATOR
REF. CURR. GENER
TIMING GENERATOR
CLOCK GENERATOR & CONTROL
DECIMATION FILTER
STAGE 1 COMB FILTER
STAGE 2 3 HALF-BAND FILTERS
IIR HIGH PASS FILTER
SERIAL OUTPUT INTERFACE
CL11!
SDAUX!
IISWS!
IISCLK!
LEFTOUT! TO 3/C2300
RIGHTOUT! TO 3/C2303
2662
22n
2661
22n
2660
22n
2659
22n
2664
1000u/6V3
3681
4R7
VDDD
VSSD
VDDX
VSSX
VSSO
VDDO
VDDA
VSSA
FILTCL
FILTCR
VOL
VOR
DATA
BCK
WS
TEST1
TEST2
SERIAL DATA INPUT
LEFT OUTPUT STAGE
RIGHT OUTPUT STAGE
TIMING
CKSL1
CKSL2
SYSCLK
RES
CDEC
DEEM1
DEEM2
MUSB
DSMB
ATSB
VREF
CLK!
DEEM1!
NMUTE!
ATSBI
3924
4k7
3667
47k
2663
10u/10V
2658
22n
2656
680p
3666
22k
2657
680p
3665
22k
2667
4u7/6V3
3664
5k6
2668
4u7/6V3
3663
5k6
3661
8k2
2655
100p
7651 -2 B
LM833D
3662
8k2
2654
100p
7651 -2 A
LM833D
3660
10k
3659
10k
5651
5652
EMI 100MHZ 600R
2653
22n
2652
22n
2666
10u/25V
2665
10u/25V
3658
100k
3654
100k
5654
5653
2651
22n
2650
22n
NJM4556
7652 B
7652 A
3653
7k5
3650
7k5
3670
180R
3673
180R
LEFT OUT
RIGHT OUT
7610
BC847B
7611
BC847B
3671
2k2
3672
2k2
KILL!
FROM 4/7446
LEFT2!
RIGHT2!
1420 - 1
1400 - 3
1420 - 2
1420 - 7
1420 - 6
1420 - 5
1420 - 4
1400 - 11
1410 - 10
HEADPHONE LEFT
1450 - 1
1450 - 2
1400 - 9
1400 - 10
1400 - 12
1450 - 3
1410 - 12
HEADPHONE RIGHT
1410 - 11
NOT FOR CDR538/560
1420 - 3
1400 - 1
1400 - 2
A
B
C
D
E
F
G
H
I
J
K
L
M
N
9
10
11
12
13
14
15
16
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18
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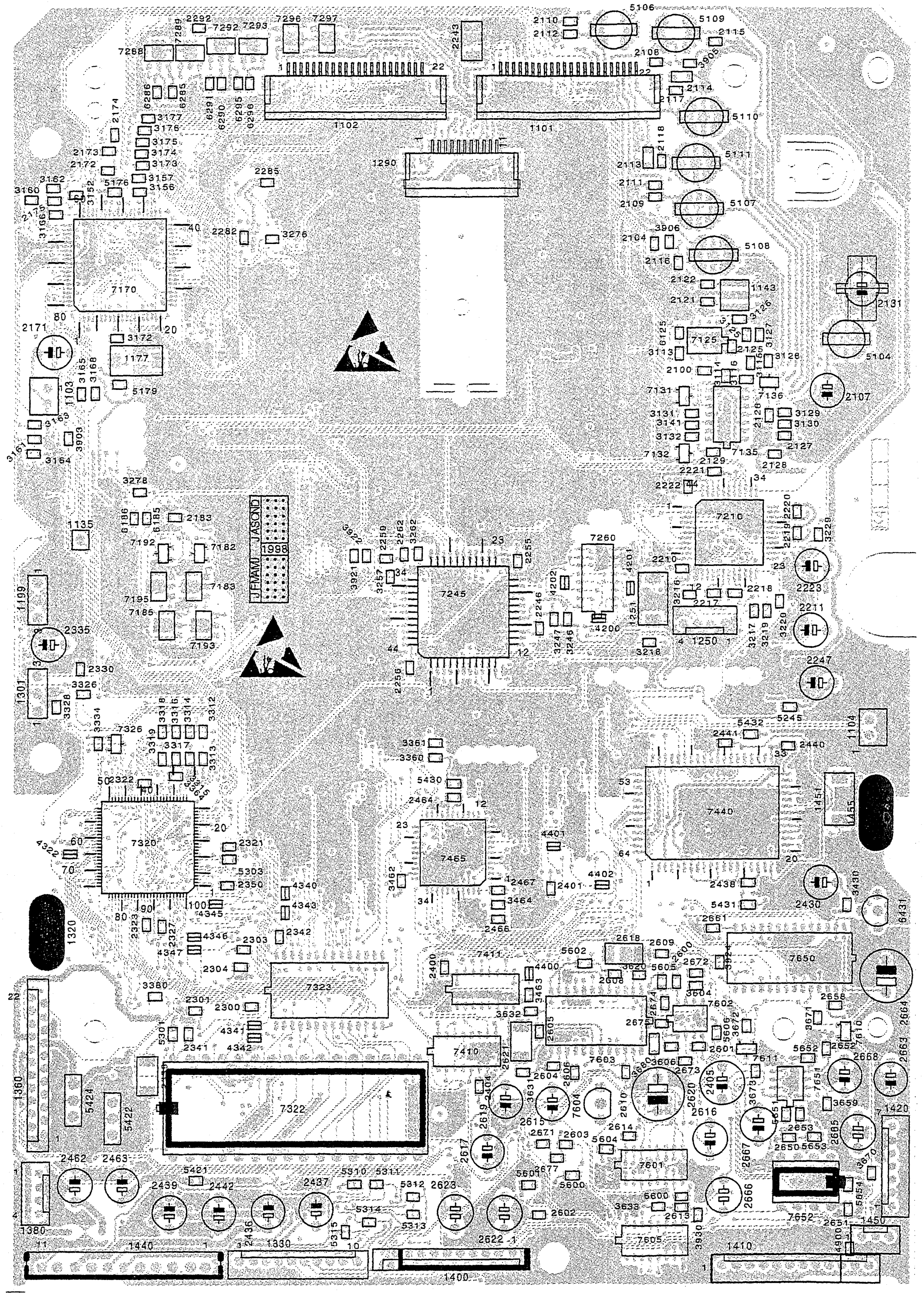
27
28
29

CONN.1400 TO CONN.1500 ON CONNECTOR PCB (PART 5)
CONN.1410 TO CONN.1200 ON LEVEL/HEADPHONE PCB (ONLY CDR760)
CONN.1420: OPTION
CONN.1450 TO CONN.1280 ON HEADPHONE PCB (ONLY CDR765)

4203_6
9824

1400	M24
1400	N24
1400	H25
1400	E 5
1400	C 5
1400	B 5
1400	E 5
1400	K25
1400	K25
1400	I25
1400	K25
1410	B10
1410	C19
1410	C19
1410	D10
1410	C10
1410	C10
1410	E19
1410	C10
1410	D10
1410	I24
1410	L24
1410	L24
1420	H25
1420	H25
1420	M24
1420	I25
1420	I25
1420	I25
1420	H25
1450	J25
1450	J25
1450	L24
1460	B10
1460	C19
1460	C19
1460	D10
1460	D10
1460	C10
1460	E19
1460	C10
1460	E10
2600	D18
2601	F18
2602	C 9
2603	E 9
2604	D21
2605	D21
2606	B24
2607	B24
2608	C27
2609	C27
2610	F24
2611	C21
2612	E22
2613	E15
2614	A14
2615	E20
2616	C20
2617	B23
2618	C26
2619	F23
2620	B24
2621	D20
2622	B 6
2623	E 6
2650	K22
2651	I22
2652	L19
2653	J19
2654	K18
2655	I18
2656	J15
2657	K15
2658	M14
2659	I13
2660	I12
2661	I11
2662	I 9
2663	M13
2664	I13
2665	L19
2666	I19
2667	I16
2668	L16
2670	A 8
2671	D 7
2672	B17
2673	D17
2674	C17
2675	F17
2676	C 7
2677	E 7
3602	F17
3603	C17
3604	B17
3606	E17
3608	D14
3609	D14
3610	D14
3611	C14
3612	E 7
3613	C 7
3614	B 8
3615	C14
3616	C14
3617	C14
3618	B14
3619	B22
3620	B26
3621	C 6
3622	D 8
3623	E 6
3624	C21
3625	E21
3626	C21
3627	C22
3628	E22
3629	E22
3630	D21
3631	D20
3632	D20
3633	E14
3635	B 7
3636	D 6
3650	L21
3653	J21
3654	L20
3658	J20
3659	M18
3660	J17
3661	H18
3662	K18
3663	L17
3664	I17
3665	K16
3666	J16
3667	M13
3670	I22
3671	J22
3672	K22
3673	L22
3680	B24
3681	I12
3924	M12
3930	C13
3931	E13
3932	B16
3933	A16
4600	F15
4601	A15
5600	E 8

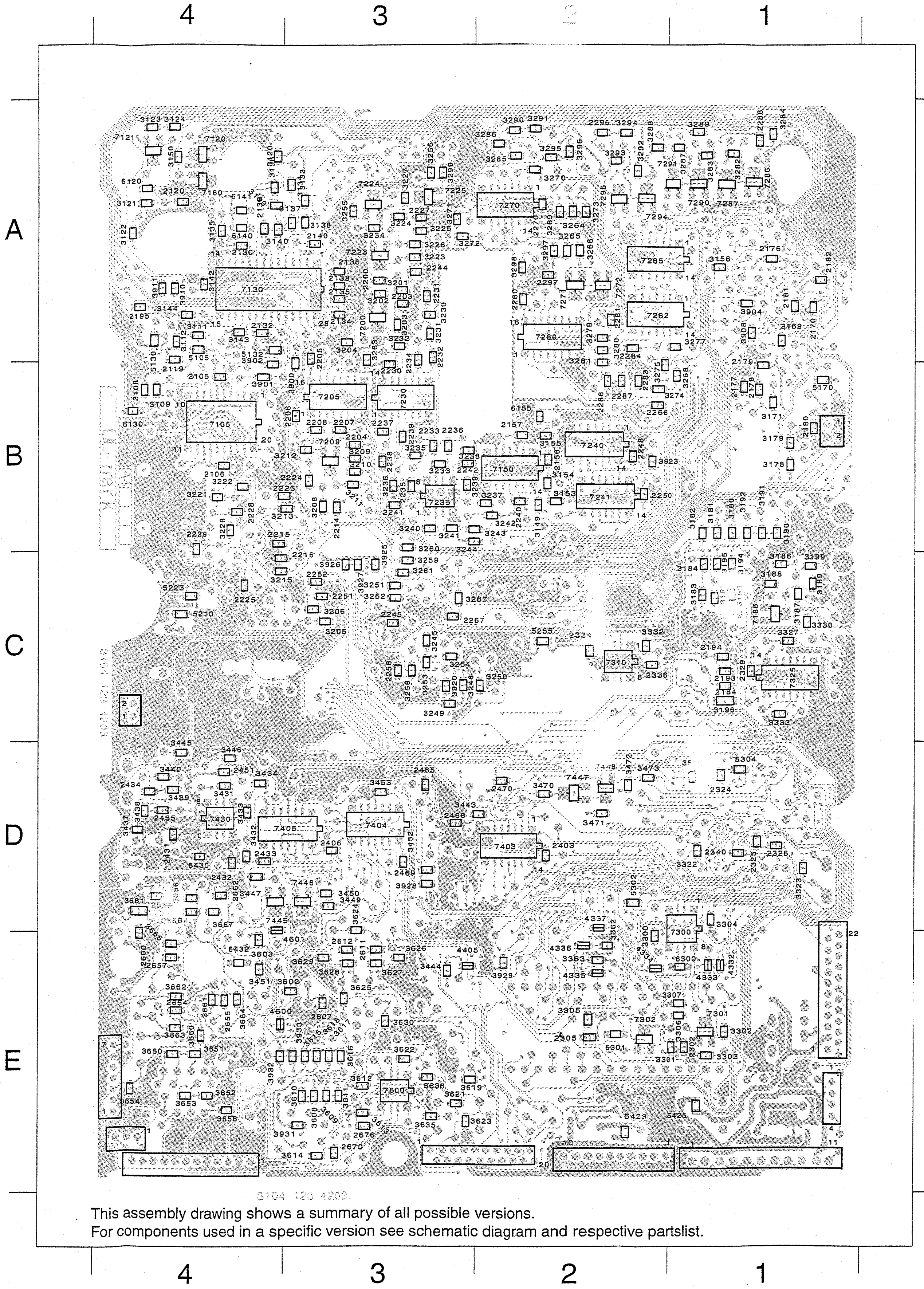
CDR MAINBOARD TOP SIDE



This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective partslist.

1101	A	3
1102	A	2
1103	B	1
1104	C	4
1135	C	1
1143	A	4
1177	B	1
1199	C	1
1250	C	4
1251	C	3
1290	A	2
1301	C	1
1320	D	1
1330	E	2
1360	E	1
1380	E	1
1400	E	2
1410	E	4
1420	E	4
1440	E	1
1450	E	4
1451	D	4
1455	D	4
2100	B	4
2104	A	3
2107	B	4
2108	A	3
2109	A	3
2110	A	3
2111	A	3
2112	A	3
2113	A	3
2114	A	3
2115	A	4
2116	A	3
2117	A	3
2118	A	3
2121	A	4
2122	A	4
2125	B	4
2126	B	4
2127	B	4
2128	B	4
2129	B	4
2131	A	4
2171	B	1
2172	A	1
2173	A	1
2174	A	1
2175	A	1
2183	B	1
2210	C	3
2211	C	4
2217	C	4
2218	C	4
2219	B	4
2220	B	4
2221	B	4
2222	B	4
2223	C	4
2243	A	3
2246	C	3
2247	C	4
2255	C	3
2256	C	2
2259	C	2
2262	C	2
2282	A	2
2285	A	2
2292	A	1
2300	E	2
2301	E	1
2303	D	2
2304	D	2
2321	D	1
2322	D	1
2323	D	1
2327	D	1
2330	C	1
2335	C	1
2339	E	1
2341	E	1
2342	D	2
2350	D	1
2400	D	2
2401	D	3
2404	E	3
2405	E	4
2430	D	4
2436	E	2
2437	E	2
2438	D	4
2439	E	1
2440	C	4
2441	C	4
2442	E	1
2462	E	1
2463	E	1
2464	D	2
2466	D	3
2467	D	3
2600	D	3
2601	E	4
2602	E	3
2603	E	3
2604	E	3
2605	E	3
2606	E	3
2608	D	3
2609	D	3
2610	E	3
2613	E	3
2614	E	3
2615	E	3
2616	E	4
2617	E	3
2618	D	3
2619	E	3
2620	E	3
2621	E	3
2622	E	3
2623	E	2
2650	E	4
2651	E	4
2652	E	4
2653	E	4
2658	E	4
2661	D	4
2663	E	4
2664	D	4
2665	E	4
2666	E	4
2667	E	4
2668	E	4
2671	E	3
2672	D	4
2673	E	3
2674	E	3
2675	E	3
2677	E	3
3113	B	3
3114	B	4
3115	B	4
3116	B	4
3125	B	4
3126	B	4
3127	B	4
3128	B	4
3129	B	4
3130	B	4
3131	B	4
3132	B	4
3141	B	4
3152	A	1
3156	A	1
3157	A	1
3160	A	1
3161	B	1
3162	A	1
3163	B	1
3164	B	1
3165	B	1
3166	A	1
3168	B	1
3172	B	1
3173	A	1
3174	A	1
3175	A	1
3176	A	1
3177	A	1
3216	C	4
3217	C	4
3218	C	3
3219	C	4
3220	C	4
3229	B	4
3246	C	3
3247	C	3
3257	C	2
3262	C	2
3276	A	2
3278	B	1
3312	C	1
3313	C	1
3314	C	1
3315	C	1
3316	C	1
3317	C	1
3318	C	1
3319	C	1
3326	C	1
3328	C	1
3334	C	1
3360	C	2
3361	C	2
3364	D	1
3380	E	1
3430	D	4
3462	D	2
3463	E	3
3464	D	3
3604	D	4
3606	E	3
3620	D	3
3631	E	3
3632	E	3
3633	E	3
3659	E	4
3670	E	4
3671	E	4
3672	E	4
3673	E	4
3680	E	3
3903	B	1
3905	A	4
3906	A	3
3921	C	2
3922	C	2
3924	D	4
3930	E	4
4200	C	3
4201	C	3
4202	C	3
4322	D	1
4340	D	2
4341	E	2
4342	E	2
4343	D	2
4345	D	1
4346	D	1
4347	D	1
4400	D	3
4401	D	3
4402	D	3
4900	E	4
5104	B	4
5106	A	3
5107	A	4
5108	A	4
5109	A	3
5110	A	4
5111	A	4
5176	A	1
5179	B	1
5245	C	4
5301	E	1
5303	D	1
5310	E	2
5311	E	2
5312	E	2
5313	E	2
5314	E	2
5315	E	2
5421	E	1
5422	E	1
5424	E	1
5430	D	2
5431	D	4
5432	C	4
5600	E	3
5601	E	3
5602	D	3
5604	E	3
5605	D	3
5606	E	4
5651	E	4
5652	E	4
5653	E	4
5654	E	4
6125	B	3
6185	B	1
6186	B	1
6285	A	1
6286	A	1
6290	A	1
6291	A	1
6295	A	2
6296	A	2
6431	D	4
6600	E	3
7125	B	4
7131	B	3
7132	B	3
7135	B	4
7136	B	4
7170	A	1
7182	C	1
7183	C	1
7185	C	1
7192	C	1
7193	C	1
7195	C	1
7210	B	4
7245	C	3
7260	C	3
7288	A	1
7289	A	1
7292	A	1
7293	A	2
7296	A	2
7297	A	2
7320	D	1
7322	E	2
7323	D	2
7326	C	1
7410	E	3
7411	D	3
7440	D	4
7465	D	2
7601	E	3
7602	E	4
7603	E	3
7604	E	3
7605	E	3
7610	E	4
7611	E	4
7650	D	4
7651	E	4
7652	E	4

CDR MAINBOARD BOTTOM SIDE



This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective partslist.

2105	B	4
2106	B	4
2119	A	4
2120	A	4
2130	A	4
2132	A	4
2134	A	3
2135	A	3
2136	A	3
2138	A	3
2139	A	4
2140	A	3
2156	B	2
2157	B	2
2170	A	1
2176	A	1
2177	B	1
2178	B	1
2179	B	1
2180	B	1
2181	A	1
2182	A	1
2184	C	1
2193	C	1
2194	C	1
2195	A	4
2200	A	3
2203	A	3
2204	B	3
2205	A	3
2206	B	3
2207	B	3
2208	B	4
2214	B	3
2215	B	4
2216	C	4
2224	B	3
2225	C	4
2226	B	4
2227	A	3
2228	B	4
2229	B	4
2230	B	3
2231	A	3
2232	A	3
2233	B	3
2234	A	3
2235	B	3
2236	B	3
2237	B	3
2238	B	3
2239	B	3
2240	B	2
2241	B	3
2242	B	3
2244	A	3
2245	C	3
2248	B	2
2250	B	2
2251	C	3
2252	C	3
2258	C	3
2267	C	3
2268	B	2
2270	A	2
2280	A	2
2281	A	2
2283	B	2
2284	A	2
2286	B	2
2287	B	2
2288	A	1
2296	A	2
2297	A	2
2302	E	1
2305	E	2
2324	D	1
2325	D	1
2326	D	1
2329	C	1
2334	C	2
2336	C	2
2340	D	1
2403	D	2
2406	D	3
2431	D	4
2432	D	4
2433	D	4
2434	D	4
2435	D	4
2451	D	4
2465	D	3
2468	D	3
2469	D	3
2470	D	2
2607	E	3
2611	E	3
2612	E	3
2654	E	4
2655	E	4
2656	D	4
2657	E	4
2659	D	4
2660	E	4
2662	D	4
2670	E	3
2676	E	3
3108	B	4
3109	B	4
3111	A	4
3112	A	4
3120	A	4
3121	A	4
3122	A	4
3123	A	4
3124	A	4
3133	A	3
3134	A	3
3135	A	4
3136	A	4
3137	A	3
3138	A	3
3139	A	4
3140	A	4
3142	A	4
3143	A	4
3144	A	4
3149	B	2
3150	A	4
3153	B	2
3154	B	2
3155	B	2
3158	A	1
3169	A	1
3171	B	1
3178	B	1
3179	B	1
3180	B	1
3181	B	1
3182	B	1
3183	C	1
3184	C	1
3185	C	1
3186	C	1
3187	C	1
3188	C	1
3189	C	1
3190	B	1
3191	B	1
3192	B	1
3193	C	1
3194	C	1
3195	C	1
3196	C	1
3199	C	1
3201	A	3
3202	A	3
3203	A	3
3204	A	3
3205	C	3
3206	C	3
3208	B	3
3209	B	3
3210	B	3
3211	B	3
3212	B	3
3213	B	3
3215	C	4
3221	B	4
3222	B	4
3223	A	3
3224	A	3
3225	A	3
3226	A	3
3227	A	3
3228	B	4
3230	A	3
3231	A	3
3232	A	3
3233	B	3
3234	A	3
3235	B	3
3236	B	3
3237	B	2
3238	B	3
3239	B	3
3240	B	3
3241	B	3
3242	B	2
3243	B	3
3244	B	3
3245	C	3
3248	C	3
3249	C	3
3250	C	2
3251	C	3
3252	C	3
3253	C	3
3254	C	3
3255	A	3
3256	A	3
3258	C	3
3259	C	3
3260	B	3
3261	C	3
3263	A	3
3264	A	2
3265	A	2
3266	A	2
3267	C	3
3268	B	1
3269	A	2
3270	A	2
3271	A	3
3272	A	3
3273	A	2
3274	B	2
3275	B	2
3277	A	1
3279	A	2
3280	A	2
3281	B	2
3282	A	1
3283	A	1
3284	A	1
3285	A	2
3286	A	2
3287	A	1
3288	A	2
3289	A	1
3290	A	2
3291	A	2
3292	A	2
3293	A	2
3294	A	2
3295	A	2
3296	A	2
3297	A	2
3298	A	2
3299	A	3
3300	E	2
3301	E	1
3302	E	1
3303	E	1
3304	D	1
3305	E	2
3306	E	1
3307	E	1
3322	D	1
3323	D	1
3327	C	1
3330	C	1
3332	C	2
3333	C	1
3350	D	1
3362	E	2
3363	E	2
3431	D	4
3432	D	4
3433	D	4
3434	D	4
3437	D	4
3438	D	4
3439	D	4
3440	D	4
3443	D	2
3444	E	3
3445	D	4
3446	D	4
3447	D	4
3449	D	3
3450	D	3
3451	E	4
3452	D	3
3453	D	3
3470	D	2
3471	D	2
3472	D	2
3473	D	2
3602	E	3
3603	E	4
3608	E	3
3609	E	3
3610	E	3
3611	E	3
3612	E	3
3613	E	3
3614	E	3
3615	E	3
3616	E	3
3617	E	3
3618	E	3
3619	E	3
3621	E	3
3622	E	3
3623	E	3
3624	D	3
3625	E	3
3626	E	3
3627	E	3
3628	E	3
3629	E	3
3630	E	3
3635	E	3
3636	E	3
3650	E	4
3651	E	4
3652	E	4
3653	E	4
3654	E	4
3658	E	4
3660	E	4
3661	E	4
3662	E	4
3663	E	4
3664	E	4
3665	E	4
3666	D	4
3667	D	4
3681	D	4
3900	B	3
3901	B	4
3902	B	4
3904	A	1
3908	A	1
3910	A	4
3911	A	4
3920	C	3
3923	B	2
3925	C	3
3926	C	3
3927	C	3
3928	D	3
3929	E	2
3931	E	3
3932	E	4
3933	E	3
4332	E	1
4333	E	1
4334	E	2
4335	E	2
4336	E	2
4337	D	2
4405	E	3
4600	E	4
4601	D	4
5105	A	4
5130	A	4
5132	A	4
5170	B	1
5210	C	4
5223	C	4
5255	C	2
5302	D	2
5304	D	1
5423	E	2
5425	E	1
6120	A	4
6130	B	4
6140	A	4
6141	A	4
6155	B	2
6300	E	1
6301	E	2
6430	D	4
6432	E	4
7105	B	4
7120	A	4
7121	A	4
7130	A	4
7150	B	2
7160	A	4
7186	C	1
7200	A	3
7205	B	3
7209	B	3
7223	A	3
7224	A	3
7225	A	3
7230	B	3
7235	B	3
7240	B	2
7241	B	2
7270	A	2
7271	A	2
7272	A	2
7280	A	2
7282	A	2
7285	A	2
7286	A	1
7287	A	1
7290	A	1
7291	A	1
7294	A	2
7295	A	2
7300	D	1
7301	E	1
7302	E	2
7310	C	2
7325	C	1
7403	D	2
7404	D	3
7405	D	3
7430	D	4
7445	D	4
7446	D	3
7447	D	2
7448	D	2
7600	E	3

ELECTRICAL PARTSLIST

MAINBOARD

MISCELLANEOUS

1001	4822 214 12804	MAINBOARD ASSY CDR760
1101	4822 267 60409	CONN 22P FEMALE
1102	4822 267 60409	CONN 22P FEMALE
1143	4822 242 82075	CRYSTAL 16MHz
1177	4822 242 10557	XTL.RESONATOR 32 MHz .
1251	4822 242 10757	CRYSTAL 33.868 000MHz SM
1290	4822 267 51454	CONN. 11P FEMALE
1320	4822 242 10236	LN-G102-139 (16MHz)
1400	4822 267 10939	20P. FEM. V
1500	4822 267 10939	20P. FEM. V
1520	4822 218 11487	OPTICAL INPUT GP1F32R
1530	4822 265 11151	ANALOG INPUT/OUTPUT CINCH
1531	4822 267 31448	DIGITAL INPUT/OUTPUT CINCH

CAPACITORS

2104	4822 126 14104	82nF 10% 0805 16V
2105	5322 122 32654	22nF 10% 63V
2106	4822 126 13296	100nF 10% 16V
2107	4822 124 80483	47µF 20% 6.3V
2108	4822 126 14104	82nF 10% 0805 16V
2109	4822 126 13482	470nF 80/20% 16V
2110	4822 126 13482	470nF 80/20% 16V
2111	4822 126 14104	82nF 10% 0805 16V
2112	4822 126 14104	82nF 10% 0805 16V
2113	4822 124 11353	1µF 20% 16V
2114	4822 124 11353	1µF 20% 16V
2115	4822 126 13482	470nF 80/20% 16V
2116	4822 126 13482	470nF 80/20% 16V
2117	5322 122 32654	22nF 10% 63V
2118	5322 122 32654	22nF 10% 63V
2119	4822 126 14104	82nF 10% 0805 16V
2120	5322 122 32654	22nF 10% 63V
2130	5322 122 32654	22nF 10% 63V
2131	4822 124 80483	47µF 20% 6.3V
2132	5322 122 32654	22nF 10% 63V
2134	4822 122 33575	220pF 5% 50V
2135	4822 122 33575	220pF 5% 50V
2136	4822 122 33575	220pF 5% 50V
2138	4822 122 33575	220pF 5% 50V
2139	5322 116 80853	560pF 5% 63V
2140	5322 122 32654	22nF 10% 63V
2156	5322 126 10223	4.7nF 10% 63V
2157	5322 122 32654	22nF 10% 63V
2170	5322 122 32654	22nF 10% 63V
2171	4822 124 40433	47µF 20% 25V
2172	4822 122 33891	3.3nF 10% 63V
2173	4822 122 33891	3.3nF 10% 63V
2174	4822 122 33891	3.3nF 10% 63V
2175	5322 122 34123	1nF 10% 50V
2176	4822 126 13296	100nF 10% 16V
2177	5322 122 32659	33pF 5% 50V
2178	5322 122 32659	33pF 5% 50V
2179	4822 126 13296	100nF 10% 16V
2180	5322 122 32654	22nF 10% 63V
2181	5322 122 32654	22nF 10% 63V
2182	5322 122 32654	22nF 10% 63V
2183	4822 126 13296	100nF 10% 16V
2184	4822 122 33177	10nF 20% 50V
2193	4822 122 33177	10nF 20% 50V
2194	4822 122 33177	10nF 20% 50V
2195	5322 122 32654	22nF 10% 63V
2200	4822 122 32646	5.6nF 10% 50V
2203	5322 122 32654	22nF 10% 63V
2204	5322 122 32654	22nF 10% 63V
2205	5322 122 32654	22nF 10% 63V
2206	4822 122 32627	2.7nF 10% 50V
2207	5322 126 10465	3.9nF 10% 50V 0805 CER2
2208	5322 116 80853	560pF 5% 63V
2210	5322 122 32654	22nF 10% 63V
2211	4822 124 80483	47µF 20% 6.3V
2214	4822 126 13692	47pF 1% 63V
2215	4822 122 33177	10nF 20% 50V
2216	4822 122 33177	10nF 20% 50V
2217	5322 122 32654	22nF 10% 63V
2218	5322 122 32654	22nF 10% 63V
2219	5322 122 32654	22nF 10% 63V
2220	5322 122 32654	22nF 10% 63V
2221	5322 122 32654	22nF 10% 63V
2222	5322 122 32654	22nF 10% 63V
2223	4822 124 80483	47µF 20% 6.3V
2224	4822 126 13296	100nF 10% 16V
2225	5322 122 32448	10pF 5% 50V
2226	5322 122 32448	10pF 5% 50V
2227	4822 126 12105	33nF 5% 63V
2228	4822 126 12105	33nF 5% 63V
2229	4822 122 33177	10nF 20% 50V
2230	5322 122 32654	22nF 10% 63V
2231	5322 122 32654	22nF 10% 63V
2232	4822 126 13618	330pF 1% 63V
2233	4822 126 13618	330pF 1% 63V
2234	4822 126 13618	330pF 1% 63V
2235	5322 122 32654	22nF 10% 63V
2236	4822 126 13618	330pF 1% 63V
2237	4822 126 13618	330pF 1% 63V
2238	4822 126 13618	330pF 1% 63V
2239	4822 126 13618	330pF 1% 63V
2240	5322 122 32654	22nF 10% 63V
2241	4822 126 13618	330pF 1% 63V
2242	5322 122 32654	22nF 10% 63V
2243	4822 124 11445	47µF 20% 10V
2244	5322 122 32654	22nF 10% 63V
2245	5322 122 32654	22nF 10% 63V
2246	4822 126 13296	100nF 10% 16V
2247	4822 124 80483	47µF 20% 6.3V
2248	5322 122 32654	22nF 10% 63V
2250	5322 122 32654	22nF 10% 63V
2251	4822 126 13486	15pF 2% 63V
2252	4822 126 13486	15pF 2% 63V
2255	5322 122 32654	22nF 10% 63V
2256	5322 122 32654	22nF 10% 63V
2259	5322 122 32659	33pF 5% 50V
2262	4822 126 10326	180pF 5% 63V
2267	4822 126 13296	100nF 10% 16V
2268	4822 126 13296	100nF 10% 16V
2270	5322 122 32654	22nF 10% 63V
2280	5322 122 32654	22nF 10% 63V
2281	5322 122 32658	22pF 5% 50V
2282	5322 122 32654	22nF 10% 63V
2283	4822 126 13296	100nF 10% 16V
2284	5322 122 32654	22nF 10% 63V
2285	4822 126 13296	100nF 10% 16V
2286	5322 122 32658	22pF 5% 50V
2287	5322 122 32658	22pF 5% 50V
2288	4822 126 12105	33nF 5% 63V
2292	4822 126 12105	33nF 5% 63V
2296	4822 126 12105	33nF 5% 63V
2297	4822 126 13296	100nF 10% 16V
2300	4822 126 13482	470nF 80/20% 16V
2301	5322 122 32654	22nF 10% 63V
2302	4822 126 13482	470nF 80/20% 16V

2303	4822 126 13482	470nF 80/20% 16V
2304	5322 122 32654	22nF 10% 63V
2305	4822 126 13482	470nF 80/20% 16V
2321	5322 122 32654	22nF 10% 63V
2322	5322 122 32654	22nF 10% 63V
2323	5322 122 32654	22nF 10% 63V
2324	5322 122 32654	22nF 10% 63V
2325	4822 126 13692	47pF 1% 63V
2326	4822 126 13692	47pF 1% 63V
2327	4822 122 33177	10nF 20% 50V
2329	5322 122 32654	22nF 10% 63V
2330	4822 126 13296	100nF 10% 16V
2334	5322 122 32654	22nF 10% 63V
2336	4822 126 13692	47pF 1% 63V
2339	4822 124 11445	47µF 20% 10V
2340	5322 122 32654	22nF 10% 63V
2341	5322 122 32654	22nF 10% 63V
2342	5322 122 32654	22nF 10% 63V
2350	4822 126 12105	33nF 5% 63V
2400	5322 122 32654	22nF 10% 63V
2401	5322 122 32654	22nF 10% 63V
2403	5322 122 32654	22nF 10% 63V
2404	5322 122 32654	22nF 10% 63V
2405	4822 124 42242	330µF 20% 6.3V
2406	5322 122 32654	22nF 10% 63V
2436	4822 124 80483	47µF 20% 6.3V
2437	4822 124 80483	47µF 20% 6.3V
2439	4822 124 80483	47µF 20% 6.3V
2442	4822 124 80483	47µF 20% 6.3V
2462	4822 124 80483	47µF 20% 6.3V
2463	4822 124 80483	47µF 20% 6.3V
2464	5322 122 32654	22nF 10% 63V
2465	5322 122 34123	1nF 10% 50V
2466	4822 126 12102	330 nF 10% 16V 0603
2467	4822 126 12105	33nF 5% 63V
2468	5322 122 32654	22nF 10% 63V
2469	4822 126 13296	100nF 10% 16V
2501	4822 124 41579	10µF 20% 50V
2502	4822 126 12105	33nF 5% 63V
2503	4822 126 12105	33nF 5% 63V
2504	5322 122 32654	22nF 10% 63V
2505	5322 122 33538	150pF 2% 63V
2506	5322 122 32654	22nF 10% 63V
2507	5322 122 32654	22nF 10% 63V
2509	5322 122 32654	22nF 10% 63V
2510	5322 122 32531	100pF 5% 50V
2511	5322 122 32531	100pF 5% 50V
2512	5322 122 32659	33pF 5% 50V
2513	5322 122 32659	33pF 5% 50V
2602	5322 122 32654	22nF 10% 63V
2603	5322 122 32654	22nF 10% 63V
2604	5322 122 32654	22nF 10% 63V
2605	5322 122 32654	22nF 10% 63V
2606	5322 122 32654	22nF 10% 63V
2607	5322 122 32654	22nF 10% 63V
2608	5322 122 32654	22nF 10% 63V
2609	5322 122 32654	22nF 10% 63V
2610	5322 122 32654	22nF 10% 63V
2611	4822 126 13694	68pF 1% 63V
2612	4822 126 13694	68pF 1% 63V
2615	4822 124 40246	4.7µF 20% 63V DXH=5X11
2616	4822 124 40246	4.7µF 20% 63V DXH=5X11
2617	4822 124 40433	47µF 20% 25V
2618	4822 124 11445	47µF 20% 10V
2619	4822 124 40433	47µF 20% 25V
2620	4822 124 41829	1000µF 20% 6.3V
2621	4822 124 11445	47µF 20% 10V
2622	4822 124 80865	10µF 20% 25V
2623	4822 124 80865	10µF 20% 25V

2650	5322 122 32654	22nF 10% 63V
2651	5322 122 32654	22nF 10% 63V
2652	5322 122 32654	22nF 10% 63V
2653	5322 122 32654	22nF 10% 63V
2654	5322 122 32531	100pF 5% 50V
2655	5322 122 32531	100pF 5% 50V
2656	5322 126 10184	680P 5% 50V.
2657	5322 126 10184	680P 5% 50V.
2658	5322 122 32654	22nF 10% 63V
2659	5322 122 32654	22nF 10% 63V
2660	5322 122 32654	22nF 10% 63V
2661	5322 122 32654	22nF 10% 63V
2662	5322 122 32654	22nF 10% 63V
2663	4822 124 41579	10µF 20% 50V
2664	4822 124 41829	1000µF 20% 6.3V
2665	4822 124 80865	10µF 20% 25V
2666	4822 124 80865	10µF 20% 25V
2667	4822 124 40246	4.7µF 20% 63V DXH=5X11
2668	4822 124 40246	4.7µF 20% 63V DXH=5X11

RESISTORS

3108	4822 051 20472	4k7 5% 0.1W
3109	4822 117 10834	47k 1% 0.1W
3111	4822 051 20184	180k 5% 0.1W
3112	4822 051 20474	470k 5% 0.1W
3120	4822 051 20273	27k 5% 0.1W
3121	4822 051 20474	470k 5% 0.1W
3122	4822 051 20223	22k 5% 0.1W
3123	4822 051 20223	22k 5% 0.1W
3124	4822 051 20333	33k 5% 0.1W
3133	4822 051 20105	1M 5% 0.1W
3134	4822 051 20333	33k 5% 0.1W
3135	4822 051 20153	15k 5% 0.1W
3136	4822 117 10833	10k 1% 0.1W
3137	4822 051 20153	15k 5% 0.1W
3138	4822 117 10833	10k 1% 0.1W
3139	4822 051 20752	7k5 5% 0.1W
3140	4822 117 10834	47k 1% 0.1W
3142	4822 117 10833	10k 1% 0.1W
3143	4822 051 20105	1M 5% 0.1W
3144	4822 117 10833	10k 1% 0.1W
3149	4822 117 11449	2k2 1% 0.1W
3152	4822 051 20104	100k 5% 0.1W
3153	4822 051 10102	1k 2% 0.25W
3154	4822 051 10102	1k 2% 0.25W
3155	4822 051 20105	1M 5% 0.1W
3156	4822 051 20101	100Ω 5% 0.1W
3157	4822 051 20101	100Ω 5% 0.1W
3158	4822 051 20101	100Ω 5% 0.1W
3160	4822 051 20223	22k 5% 0.1W
3161	4822 051 20105	1M 5% 0.1W
3162	4822 051 20105	1M 5% 0.1W
3163	4822 051 20393	39k 5% 0.1W
3164	4822 051 20223	22k 5% 0.1W
3165	4822 051 20101	100Ω 5% 0.1W
3166	4822 051 20393	39k 5% 0.1W
3168	4822 051 20101	100Ω 5% 0.1W
3169	4822 051 20101	100Ω 5% 0.1W
3171	4822 051 20121	120Ω 5% 0.1W
3172	4822 051 20105	1M 5% 0.1W
3173	4822 051 20101	100Ω 5% 0.1W
3174	4822 051 20101	100Ω 5% 0.1W
3175	4822 051 20101	100Ω 5% 0.1W
3176	4822 051 20101	100Ω 5% 0.1W
3177	4822 051 20101	100Ω 5% 0.1W
3178	4822 051 20223	22k 5% 0.1W
3179	4822 051 20101	100Ω 5% 0.1W
3180	4822 117 10833	10k 1% 0.1W
3181	4822 051 20562	5k6 5% 0.1W 0805
3182	4822 051 20562	5k6 5% 0.1W 0805

3183	4822 051 20472	4k7 5% 0.1W
3184	4822 051 20101	100Ω 5% 0.1W
3185	4822 051 20101	100Ω 5% 0.1W
3186	4822 117 10833	10k 1% 0.1W
3187	4822 051 10102	1k 2% 0.25W
3188	4822 117 10833	10k 1% 0.1W
3189	4822 051 20109	10Ω 5% 0.1W
3190	4822 117 10833	10k 1% 0.1W
3191	4822 051 20562	5k6 5% 0.1W 0805
3192	4822 051 20562	5k6 5% 0.1W 0805
3193	4822 051 20472	4k7 5% 0.1W
3194	4822 051 20101	100Ω 5% 0.1W
3195	4822 051 20101	100Ω 5% 0.1W
3196	5322 117 11726	10Ω 5%
3201	4822 051 20223	22k 5% 0.1W
3202	4822 051 20393	39k 5% 0.1W
3203	4822 051 20109	10Ω 5% 0.1W
3204	4822 117 11454	820Ω 1% 0.1W
3205	4822 117 11504	270Ω 1% 0.1W
3206	4822 051 20105	1M 5% 0.1W
3208	4822 051 20229	22Ω 5% 0.1W
3209	4822 051 20223	22k 5% 0.1W
3210	4822 051 20393	39k 5% 0.1W
3211	4822 051 20109	10Ω 5% 0.1W
3212	4822 117 11454	820Ω 1% 0.1W
3213	4822 051 20472	4k7 5% 0.1W
3215	4822 117 10833	10k 1% 0.1W
3216	4822 051 20101	100Ω 5% 0.1W
3217	4822 051 20101	100Ω 5% 0.1W
3218	4822 051 20101	100Ω 5% 0.1W
3219	4822 051 20101	100Ω 5% 0.1W
3220	4822 051 20101	100Ω 5% 0.1W
3221	4822 051 20472	4k7 5% 0.1W
3222	4822 051 20101	100Ω 5% 0.1W
3223	4822 051 20229	22Ω 5% 0.1W
3224	4822 051 10102	1k 2% 0.25W
3225	4822 051 10102	1k 2% 0.25W
3226	4822 117 11454	820Ω 1% 0.1W
3227	4822 051 20561	560Ω 5% 0.1W
3228	4822 117 10833	10k 1% 0.1W
3229	4822 117 10833	10k 1% 0.1W
3230	4822 051 20472	4k7 5% 0.1W
3231	4822 117 11751	16k RC12H 1% 0805
3232	4822 117 11145	4k7 1% 0.1W
3233	4822 117 10839	130k 1% 0.1W
3234	4822 117 10833	10k 1% 0.1W
3235	4822 117 11751	16k RC12H 1% 0805
3236	4822 117 11145	4k7 1% 0.1W
3237	4822 117 10833	10k 1% 0.1W
3238	4822 117 10833	10k 1% 0.1W
3239	4822 117 10839	130k 1% 0.1W
3240	4822 117 10839	130k 1% 0.1W
3241	4822 051 20472	4k7 5% 0.1W
3242	4822 051 20105	1M 5% 0.1W
3243	4822 051 20564	560k 5% 0.1W
3244	4822 117 11449	2k2 1% 0.1W
3245	4822 051 20104	100k 5% 0.1W
3246	4822 051 20394	390k 5% 0.1W
3247	4822 117 11503	220Ω 1% 0.1W
3248	4822 051 20223	22k 5% 0.1W
3249	4822 051 20104	100k 5% 0.1W
3250	4822 051 20101	100Ω 5% 0.1W
3251	4822 051 20223	22k 5% 0.1W
3252	4822 051 20223	22k 5% 0.1W
3253	4822 051 20223	22k 5% 0.1W
3254	4822 051 20472	4k7 5% 0.1W
3255	4822 117 11449	2k2 1% 0.1W
3256	4822 051 20339	33Ω 5% 0.1W
3257	4822 051 20339	33Ω 5% 0.1W
3259	4822 117 10833	10k 1% 0.1W
3260	4822 117 11139	1k5 1% 0.1W
3261	4822 117 11449	2k2 1% 0.1W
3262	4822 051 20101	100Ω 5% 0.1W
3263	4822 117 10834	47k 1% 0.1W
3264	4822 051 10102	1k 2% 0.25W
3265	4822 051 10102	1k 2% 0.25W
3266	4822 051 10102	1k 2% 0.25W
3267	4822 117 10833	10k 1% 0.1W
3268	4822 051 20392	3k9 5% 0.1W
3269	4822 051 10102	1k 2% 0.25W
3270	4822 117 10965	18k 1% 0.1W
3271	4822 117 10965	18k 1% 0.1W
3272	4822 117 10965	18k 1% 0.1W
3273	4822 051 10102	1k 2% 0.25W
3274	4822 117 10965	18k 1% 0.1W
3275	4822 051 20223	22k 5% 0.1W
3276	4822 051 20223	22k 5% 0.1W
3277	4822 051 20223	22k 5% 0.1W
3279	4822 051 10102	1k 2% 0.25W
3280	4822 051 10102	1k 2% 0.25W
3281	4822 051 10102	1k 2% 0.25W
3282	4822 051 10102	1k 2% 0.25W
3283	4822 051 10102	1k 2% 0.25W
3284	4822 051 20479	47Ω 5% 0.1W
3285	4822 051 20562	5k6 5% 0.1W 0805
3286	4822 051 20562	5k6 5% 0.1W 0805
3287	4822 051 10102	1k 2% 0.25W
3288	4822 051 10102	1k 2% 0.25W
3289	4822 051 20479	47Ω 5% 0.1W
3290	4822 051 20562	5k6 5% 0.1W 0805
3291	4822 051 20562	5k6 5% 0.1W 0805
3292	4822 051 10102	1k 2% 0.25W
3293	4822 051 10102	1k 2% 0.25W
3294	4822 051 20479	47Ω 5% 0.1W
3295	4822 051 20562	5k6 5% 0.1W 0805
3296	4822 051 20562	5k6 5% 0.1W 0805
3297	4822 117 11503	220Ω 1% 0.1W
3298	4822 117 11503	220Ω 1% 0.1W
3299	4822 051 20229	22Ω 5% 0.1W
3300	4822 051 20104	100k 5% 0.1W
3301	4822 051 20684	680k 5% 0.1W
3302	4822 051 20471	470Ω 5% 0.1W
3303	4822 051 10102	1k 2% 0.25W
3304	4822 051 20104	100k 5% 0.1W
3305	4822 051 20684	680k 5% 0.1W
3306	4822 051 20471	470Ω 5% 0.1W
3307	4822 051 10102	1k 2% 0.25W
3312	4822 117 10833	10k 1% 0.1W
3313	4822 117 10833	10k 1% 0.1W
3315	4822 117 10833	10k 1% 0.1W
3317	4822 117 10833	10k 1% 0.1W
3319	4822 117 10833	10k 1% 0.1W
3322	4822 117 10833	10k 1% 0.1W
3323	4822 051 20105	1M 5% 0.1W
3326	4822 051 20104	100k 5% 0.1W
3327	4822 117 10833	10k 1% 0.1W
3328	4822 117 11507	6k8 1% 0.1W
3330	4822 051 20101	100Ω 5% 0.1W
3332	4822 051 10102	1k 2% 0.25W
3333	4822 117 10833	10k 1% 0.1W
3334	4822 117 10833	10k 1% 0.1W
3350	4822 051 20472	4k7 5% 0.1W
3361	4822 117 10833	10k 1% 0.1W
3362	4822 117 10833	10k 1% 0.1W
3363	4822 117 10833	10k 1% 0.1W
3364	4822 117 10833	10k 1% 0.1W
3380	4822 117 10833	10k 1% 0.1W
3443	4822 051 20223	22k 5% 0.1W

3444	4822 051 20223	22k 5% 0.1W
3447	4822 117 10834	47k 1% 0.1W
3449	4822 051 20104	100k 5% 0.1W
3450	4822 051 20104	100k 5% 0.1W
3451	4822 051 20101	100Ω 5% 0.1W
3452	4822 117 10833	10k 1% 0.1W
3453	4822 117 10833	10k 1% 0.1W
3462	4822 051 20223	22k 5% 0.1W
3463	4822 051 20223	22k 5% 0.1W
3464	4822 117 11504	270Ω 1% 0.1W
3470	4822 051 20562	5k6 5% 0.1W 0805
3471	4822 051 20562	5k6 5% 0.1W 0805
3472	4822 051 20562	5k6 5% 0.1W 0805
3473	4822 051 20562	5k6 5% 0.1W 0805
3503	4822 051 20689	68Ω 5% 0.1W
3504▲	4822 117 11152	4Ω7 5%
3505	4822 051 20332	3k3 5% 0.1W
3506	4822 051 20332	3k3 5% 0.1W
3507▲	4822 117 11152	4Ω7 5%
3508	4822 051 20759	75Ω 5% 0.1W
3509	4822 051 20104	100k 5% 0.1W
3510	4822 051 20104	100k 5% 0.1W
3511	4822 117 11373	100Ω 1% RC12H 0805
3512	4822 117 11449	2k2 1% 0.1W
3513	4822 117 11373	100Ω 1% RC12H 0805
3514	4822 117 11449	2k2 1% 0.1W
3515	4822 117 11373	100Ω 1% RC12H 0805
3516	4822 117 11449	2k2 1% 0.1W
3517	4822 117 11373	100Ω 1% RC12H 0805
3518	4822 117 11449	2k2 1% 0.1W
3614	4822 051 20008	0Ω JUMP. (0805)
3620	4822 117 10833	10k 1% 0.1W
3621	4822 051 20104	100k 5% 0.1W
3622	4822 051 20008	0Ω JUMP. (0805)
3623	4822 051 20104	100k 5% 0.1W
3624	4822 117 10833	10k 1% 0.1W
3625	4822 117 10833	10k 1% 0.1W
3626	4822 051 20334	330k 5% 0.1W
3627	4822 117 10833	10k 1% 0.1W
3628	4822 117 10833	10k 1% 0.1W
3629	4822 051 20334	330k 5% 0.1W
3630	4822 117 11188	20k 1% 0.1W
3631	4822 117 11504	270Ω 1% 0.1W
3632	4822 117 11504	270Ω 1% 0.1W
3635	4822 051 20008	0Ω JUMP. (0805)
3636	4822 051 20008	0Ω JUMP. (0805)
3650	4822 117 10362	7k5 1% 0.1W
3651	4822 051 20104	100k 5% 0.1W
3652	4822 051 20104	100k 5% 0.1W
3653	4822 117 10362	7k5 1% 0.1W
3654	4822 051 20104	100k 5% 0.1W
3658	4822 051 20104	100k 5% 0.1W
3659	4822 117 10833	10k 1% 0.1W
3660	4822 117 10833	10k 1% 0.1W
3661	4822 117 11437	8k2 1% 0.1W
3662	4822 117 11437	8k2 1% 0.1W
3663	4822 117 13085	5k6 1% RC12H 0.1W 0805
3664	4822 117 13085	5k6 1% RC12H 0.1W 0805
3665	4822 051 20223	22k 5% 0.1W
3666	4822 051 20223	22k 5% 0.1W
3667	4822 117 10834	47k 1% 0.1W
3670	4822 051 20121	120Ω 5% 0.1W
3671	4822 117 11449	2k2 1% 0.1W
3672	4822 117 11449	2k2 1% 0.1W
3673	4822 051 20121	120Ω 5% 0.1W
3680▲	4822 117 11152	4Ω7 5%
3681▲	4822 117 11152	4Ω7 5%
3900	4822 051 20008	0Ω JUMP. (0805)
3901	4822 051 20008	0Ω JUMP. (0805)
3902	4822 051 20008	0Ω JUMP. (0805)
3903	4822 051 20008	0Ω JUMP. (0805)
3904	4822 051 20008	0Ω JUMP. (0805)
3905	4822 051 20008	0Ω JUMP. (0805)
3906	4822 051 20008	0Ω JUMP. (0805)
3908	4822 051 20008	0Ω JUMP. (0805)
3911	4822 051 20008	0Ω JUMP. (0805)
3920	4822 051 20008	0Ω JUMP. (0805)
3921	4822 051 20101	100Ω 5% 0.1W
3922	4822 051 20101	100Ω 5% 0.1W
3923	4822 117 10834	47k 1% 0.1W
3924	4822 051 20472	4k7 5% 0.1W

COILS

5104	4822 157 71659	100µH 15% 7A06L
5105▲	4822 157 71206	BLM21A601SPT
5106	4822 157 71658	27µH 15% 7A06L
5107	4822 157 71658	27µH 15% 7A06L
5108	4822 157 71658	27µH 15% 7A06L
5109	4822 157 71658	27µH 15% 7A06L
5110	4822 157 71659	100µH 15% 7A06L
5111	4822 157 71659	100µH 15% 7A06L
5130▲	4822 157 71206	BLM21A601SPT
5132▲	4822 157 71206	BLM21A601SPT
5170▲	4822 157 71206	BLM21A601SPT
5176▲	4822 157 71206	BLM21A601SPT
5179▲	4822 157 71206	BLM21A601SPT
5210▲	4822 157 71206	BLM21A601SPT
5223▲	4822 157 71206	BLM21A601SPT
5245▲	4822 157 71206	BLM21A601SPT
5255▲	4822 157 71206	BLM21A601SPT
5301▲	4822 157 71206	BLM21A601SPT
5302▲	4822 157 71206	BLM21A601SPT
5303▲	4822 157 71206	BLM21A601SPT
5304▲	4822 157 71206	BLM21A601SPT
5310	4822 242 10958	NFM39R12C102T1
5311	4822 242 10958	NFM39R12C102T1
5312	4822 242 10958	NFM39R12C102T1
5313	4822 242 10958	NFM39R12C102T1
5314	4822 242 10958	NFM39R12C102T1
5315	4822 242 10958	NFM39R12C102T1
5420	4822 242 82201	DSS306-92F223Z16
5421	4822 157 11716	BLM21P300SPT
5422	4822 242 82201	DSS306-92F223Z16
5423	4822 157 11716	BLM21P300SPT
5424	4822 242 82201	DSS306-92F223Z16
5425	4822 157 11716	BLM21P300SPT
5430▲	4822 157 71206	BLM21A601SPT
5450	4822 157 70601	100µH (920927085A)
5602▲	4822 157 71206	BLM21A601SPT
5651▲	4822 157 71206	BLM21A601SPT
5652▲	4822 157 71206	BLM21A601SPT
5653▲	4822 157 71206	BLM21A601SPT
5654▲	4822 157 71206	BLM21A601SPT

DIODES

6120	4822 130 10654	BAT254
6130	4822 130 11397	BAS316
6140	4822 130 11397	BAS316
6141	4822 130 11397	BAS316
6155	4822 130 10654	BAT254
6185	4822 130 11397	BAS316
6186	4822 130 11397	BAS316
6285	4822 130 11397	BAS316
6286	4822 130 11397	BAS316
6290	4822 130 11397	BAS316
6291	4822 130 11397	BAS316
6295	4822 130 11397	BAS316
6296	4822 130 11397	BAS316
6300	4822 130 11397	BAS316
6301	4822 130 11397	BAS316

6432	4822 130 11397	BAS316

TRANSISTORS & IC's

7105	4822 209 15602	SZA1010T/K1
7120	5322 130 44787	BFR31
7121	5322 130 60508	BC857B
7130	4822 209 33421	OQ8845
7150	4822 209 30732	LM319D
7170	4822 209 14785	SERVO CONTROLLER V 2.1
7182	5322 130 60508	BC857B
7183	4822 130 60142	BC869
7185	5322 130 61569	BC868
7186	4822 130 60511	BC847B
7192	5322 130 60508	BC857B
7193	4822 130 60142	BC869
7195	5322 130 61569	BC868
7200	4822 130 60511	BC847B
7205	4822 209 60792	74HC4053D
7209	4822 130 60511	BC847B
7210	4822 209 16438	CD65WD
7223	5322 130 42718	BFS20
7224	4822 130 60383	BF824
7225	5322 130 42718	BFS20
7230	5322 209 61482	PC74HC4066T
7235	4822 209 30095	LM833D
7240	5322 209 61482	PC74HC4066T
7241	5322 209 73179	74HCT74D
7245	4822 209 33417	TDA1371H/N1
7270	4822 209 31615	LM324AD
7271	4822 130 60511	BC847B
7272	5322 130 60508	BC857B
7280	4822 209 60792	74HC4053D
7282	4822 209 31615	LM324AD
7285	5322 209 61482	PC74HC4066T
7286	4822 130 60511	BC847B
7287	5322 130 60508	BC857B
7288	4822 130 60142	BC869
7289	5322 130 61569	BC868
7290	4822 130 60511	BC847B
7291	5322 130 60508	BC857B
7292	4822 130 60142	BC869
7293	5322 130 61569	BC868
7294	4822 130 60511	BC847B
7295	5322 130 60508	BC857B
7296	4822 130 60142	BC869
7297	5322 130 61569	BC868
7300	4822 209 30095	LM833D
7301	4822 130 60511	BC847B
7302	4822 130 60511	BC847B
7310	4822 209 31275	MC34064D5
7320	4822 209 16834	MC68HC08AB0
7322	4822 209 16833	USER CDR760
7323	4822 209 16439	CY6264-70SNC
7325	5322 209 11548	74HC14D
7326	4822 130 60511	BC847B
7403	5322 209 61482	PC74HC4066T
7404	5322 209 61482	PC74HC4066T
7405	5322 209 73179	74HCT74D
7410	5322 209 61132	PC74HCT4052T
7411	5322 209 61132	PC74HCT4052T
7445	5322 130 60508	BC857B
7446	5322 130 60508	BC857B
7447	4822 130 60511	BC847B
7448	4822 130 60511	BC847B
7465	4822 209 33395	TDA1315H/N2
7500	5322 209 11517	PC74HCU04T
7501	4822 130 60511	BC847B
7502	4822 130 60511	BC847B
7503	4822 130 60511	BC847B
7504	4822 130 60511	BC847B
7603	4822 209 33397	SAA7366T
7604	4822 209 72042	L78L05ACZ
7610	4822 130 60511	BC847B
7611	4822 130 60511	BC847B
7650	4822 209 33403	TDA1305T/N2
7651	4822 209 30095	LM833D
7652	4822 209 82362	NJM4556D

DISPLAY-LEVEL/HEADPHONE

MISCELLANEOUS

1003/3	4822 256 10503	FTD HOLDER
1201	4822 276 13114	TACT SWITCH
1202	4822 276 13114	TACT SWITCH
1203	4822 276 13114	TACT SWITCH
1204	4822 276 13114	TACT SWITCH
1205	4822 276 13114	TACT SWITCH
1206	4822 276 13114	TACT SWITCH
1207	4822 276 13114	TACT SWITCH
1208	4822 276 13114	TACT SWITCH
1209	4822 276 13114	TACT SWITCH
1210	4822 276 13114	TACT SWITCH
1211	4822 276 13114	TACT SWITCH
1212	4822 276 13114	TACT SWITCH
1213	4822 276 13114	TACT SWITCH
1230	4822 242 10753	CRYSTAL 8MHz
1295	4822 276 14007	ON/OFF SWITCH
1299	4822 267 31453	HEADPHONE SOCKET

CAPACITORS

2200	5322 122 32654	22nF 10% 63V
2201	5322 122 32658	22pF 5% 50V
2202	5322 122 32658	22pF 5% 50V
2203	5322 122 32654	22nF 10% 63V
2204	5322 122 32658	22pF 5% 50V
2205	5322 122 32658	22pF 5% 50V
2206	4822 126 12105	33nF 5% 63V
2207	5322 122 32654	22nF 10% 63V
2208	5322 122 32654	22nF 10% 63V
2209	5322 122 32654	22nF 10% 63V

RESISTORS

3200	4822 051 20393	39k 5% 0.1W
3201	4822 051 10102	1k 2% 0.25W
3202	4822 051 10102	1k 2% 0.25W
3205	4822 051 20101	100Ω 5% 0.1W
3206	4822 051 20101	100Ω 5% 0.1W
3207	4822 051 20472	4k7 5% 0.1W
3210	4822 051 20472	4k7 5% 0.1W
3211	4822 051 20472	4k7 5% 0.1W
3212	4822 051 20472	4k7 5% 0.1W
3213	4822 051 20472	4k7 5% 0.1W
3214	4822 051 20472	4k7 5% 0.1W
3215	4822 051 20008	0Ω JUMP. (0805)
3216	4822 051 20008	0Ω JUMP. (0805)
3221	4822 117 10833	10k 1% 0.1W
3222	4822 117 10833	10k 1% 0.1W
3223	4822 117 10833	10k 1% 0.1W
3224	4822 117 10833	10k 1% 0.1W
3299	4822 100 90108	20k
4xxx	4822 051 10008	0Ω 5% 0.25W

COILS

5200	4822 242 10805	NFM41R10C102T3
5201	4822 242 10805	NFM41R10C102T3

DIODES

6200	4822 212 30842	TSOP1736SB1

TRANSISTORS & IC's

7205	4822 135 00149	BJ563GK
7210	4822 209 16055	TMP87PM74ZF
7350	4822 209 30095	LM833D

CONNECTIONS

8001	4822 320 12451	CWAS FLEX CDR

POWER SUPPLY

MISCELLANEOUS

1003	4822 218 11938	PSU ASSY 20PS314/00
1003	4822 218 11967	PSU ASSY 20PS314/17
4▲	4822 265 31015	MAINS INLET /00
4▲	4822 265 31016	MAINS INLET /17
9▲	4822 256 92053	FUSE HOLDER CLICK (PROM)
1120▲	4822 070 32002	FUSE 218002.(2A)
1125	4822 252 60151	SURGE PROTECT DSP-501N-A21F A

CAPACITORS

2101	4822 126 13695	82pF 1% NP0 63V
2102	5322 126 10511	1nF 5%NP0 50V
2103	5322 122 32268	470pF 10% 50V
2104	5322 126 10223	4,7nF10%X7R 63V
2109	5322 122 31865	1,5nF10%X7R 63V
2110	4822 124 41576	2,2µF 20% 50V
2111	4822 126 13196	100nF 10% 0805 X7R 25V
2113	4822 122 33127	2,2nF10%X7R 63V
2114	4822 126 13196	100nF 10% 0805 X7R 25V
2120	4822 121 10799	330nF 20% MPP 250V
2121	4822 124 12281	150µF 20% 400V(all versions except /17 USA)
2121	4822 124 12293	330µF 20% 250V(/17 version)
2125	4822 121 51598	2,2nF 5% 400V
2126	4822 121 51598	2,2nF 5% 400V
2127	4822 126 14496	470pF 10% 1KV
2129	4822 124 81024	4,7µF20% 50V
2131▲	4822 126 14497	2,2nF 20% 250V
2133	4822 124 12062	100uF 20% 25V
2201	4822 126 13196	100nF 10% 0805 X7R 25V
2202	5322 122 32654	22nF10%X7R 63V
2203	4822 124 40248	10µF20% 63V
2210	4822 124 12282	2200µF 20% YK 10V
2211	4822 122 31173	220pF 10% 500V
2212	4822 121 43526	47nF 5% 250V
2220	4822 124 40849	330µF 20% 16V
2222	4822 124 12283	100µF 20% MS7 6.3V
2230	4822 124 81144	1000µF 16V
2240	4822 124 41545	220µF20% 16V
2242	4822 124 41584	100µF 20% 10V
2250	4822 124 40248	10µF20% 63V
2260	4822 122 31175	1nF 10% 500V

RESISTORS

3101	4822 116 52304	82k 5% 0,5W
3102	4822 051 20223	22k 5% 0,1W
3103	4822 051 20822	8k2 5% 0,1W
3104	4822 051 20153	15k 5% 0,1W
3105	4822 051 20153	15k 5% 0,1W
3106	4822 051 20102	1k 5% 0,1W
3107	4822 051 20184	180k 5% 0,1W
3108	4822 117 10965	18k 1% 0,1W
3109	4822 051 20331	330Ω 5% 0,1W
3110	4822 117 10833	10k 1% 0,1W
3111	4822 051 20229	22Ω 5% 0,1W
3112	4822 051 20101	100Ω 5% 0,1W
3113	4822 051 20159	15Ω 5% 0,1W
3115	4822 116 52232	910Ω 5% 0,5W
3116	4822 117 11448	180Ω 1% 0,1W
3120	4822 116 21217	1MA/423V 800V
3122	4822 117 13515	2Ω7 3W AC03 WW
3123	4822 050 21803	18k 1% 0,6W
3124	4822 116 83872	220Ω 5% 0,5W
3125	4822 050 21002	1k 1% 0,6W
3126	4822 116 80676	1Ω5 5% 0,5W
3127	4822 116 80676	1Ω5 5% 0,5W
3128	4822 116 80676	1Ω5 5% 0,5W
3129	4822 116 83864	10k 5% 0,5W
3134	4822 050 21803	18k 1% 0,6W
3201	4822 050 21002	1k 1% 0,6W
3202	4822 050 13302	3k3 1% 0,4W
3203	4822 116 52175	100Ω 5% 0,5W
3204	4822 051 20182	1k8 5% 0,1W
3205	4822 051 20008	0Ω JUMP. (0805)
3206	4822 051 20332	3k3 5% 0,1W
3221	4822 051 20182	1k8 5% 0,1W
3222	4822 051 20102	1k 5% 0,1W
3230	4822 050 21002	1k 1% 0,6W
4110	4822 051 20008	0Ω JUMP. (0805)

COILS

5120▲	4822 157 53348	FILTER CHOKE ASSY CU15D3
5125	4822 157 11411	100MHz
5131▲	4822 146 11062	TRANSFORMER CT296F CDR765
5132	4822 157 51462	10µH
5210	4822 157 11722	6,8µH 20% 7,7X9,5
5215	4822 157 11722	6,8µH 20% 7,7X9,5
5220	4822 157 51462	10µH
5225	4822 157 53139	4,7µH
5226	4822 157 53139	4,7µH
5230	4822 157 50963	2,2µH
5240	4822 157 51462	10µH
5250	4822 157 51462	10µH
5255	4822 157 51195	1µH 20% 4X9,8MM AXIAL

DIODES

6102	4822 130 31603	1N4006
6103	4822 130 31603	1N4006
6104	4822 130 31603	1N4006
6105	4822 130 31603	1N4006
6106	4822 130 42606	BYD33J
6107	4822 130 42606	BYD33J
6113	4822 130 32245	BYV10-40
6114	4822 130 42488	BYD33D
6129	5322 130 80122	BZX84-C24
6132	4822 130 42488	BYD33D
6201	4822 130 34328	BZX79-B30
6210	4822 130 83801	PBYR745F
6211	4822 130 42488	BYD33D
6212	4822 130 42488	BYD33D
6220	4822 130 42488	BYD33D
6230	4822 130 80983	BYW29F-150
6231	4822 130 31603	1N4006
6240	4822 130 42488	BYD33D
6250	4822 130 42606	BYD33J
6275	4822 130 30621	1N4148

IC's

7110	4822 209 90025	MC44603P
7125	4822 130 63689	STP3N60FI
7200▲	4822 130 91451	CQY80NG
7201	4822 209 16944	KA431AZ
7221	4822 209 80591	LM317T
7249	4822 209 82112	MC7908CT
7250	4822 209 31257	MC79L24ACP

Compact disc recorder

CDR760

A99-250

Service
Service
Service

Supplement

Product Service Group CE Audio

Service Information

Already published Service Information : none.

CORRECTIONS TO SERVICE MANUAL

CDR MAIN BOARD

∗ Correction of circuit diagrams and parts list :

2504	4822 126 13196	100nF 10% 0805 25V
2436	4822 124 40433	47µF 20% 25V
2437	4822 124 40433	47µF 20% 25V
2442	4822 124 40433	47µF 20% 25V
3453	4822 051 10102	1k 2% 0.25W

∗ Added to circuit diagrams and parts list :

3278	4822 051 20101	100Ω 5% 0.1W

New drawings are enclosed

CHANGES DURING PRODUCTION

CDR MAIN BOARD

∗ To lower the headphone volume level, the following changes have been made to the CDR Main Board :

Change of circuit diagrams and parts list :

3670	4822 117 11448	180Ω 1% 0.1W
3673	4822 117 11448	180Ω 1% 0.1W

Deleted from circuit diagrams and parts list :

3651	4822 051 20104	100k 5% 0.1W
3652	4822 051 20104	100k 5% 0.1W

∗ The CDR Main Board Top Side drawing on page 12-9 shows component 7320 having only 80 pins instead of 100. In the enclosed drawing this has been corrected. The same error occurs on the PCB. The service text on the PCB itself will be corrected from L4 onwards.

New drawings are enclosed.

1999-02-11

4822 725 25252

PCS 98 847